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CIBCR

RECESSION–RECOVERY WATCH...

A Quarterly Report Designed to Assist in the Evaluation of Current Business Conditions

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Dr. Geoffrey H. Moore
Director

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Summary

Although the U.S. economic expansion reached its seventh birthday in November, one sign of old age has appeared in the form of the slowdown, or growth cycle contraction, that began in February. Present indications are that the slowdown will continue into 1990, but not become a recession. Inflation likewise has been slowing down, as now recorded by a new daily inflation index.

Slowdown in Progress since February 1989

Evidence that an economic slowdown, comparable with previous episodes of this type, began early in 1989, continues to accumulate. In Chart A we have assembled five measures of aggregate economic activity, each expressed as a ratio to its long-run trend. This is the method that has been used to define growth cycles, by the National Bureau of Economic Research and by CIBCR. The chronology previously developed, with turning points through 1986, is shown by the shaded areas in the chart.

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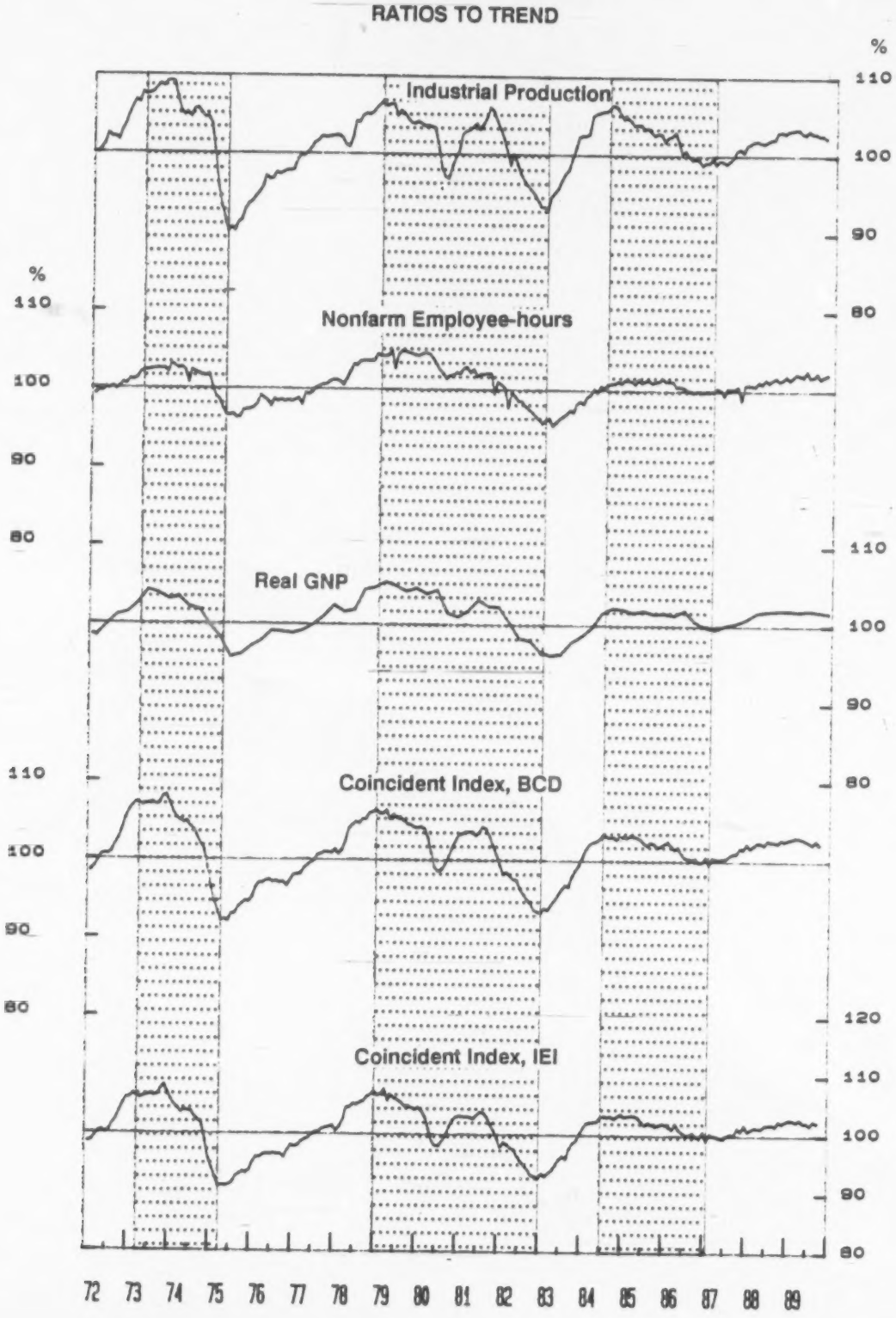
CHART A. GROWTH CYCLES IN FIVE MEASURES OF AGGREGATE ECONOMIC ACTIVITY



Shaded areas are growth cycle contractions.
Center for International Business Cycle Research, November 1989.

Table A records the latest peak dates for the five indicators. On a monthly basis they range from January through April 1989, while the quarterly figures for real GNP (trend-adjusted) show a peak in the first quarter of 1989. Our tentative selection of February 1989 as the growth cycle peak, as reported in the August issue of *Recession-Recovery Watch*, still seems to be supported, although the date remains tentative because the slowdown has not proceeded far enough or long enough to make it certain.

TABLE A.
LATEST GROWTH CYCLE PEAKS IN COINCIDENT INDICATORS

1. Industrial Production Index, FRB	January 1989
2. Coincident Index, BCD	January 1989
3. Coincident Index, IEI	February 1989
4. Real GNP	1st Quarter, 1989
5. Nonfarm Employee-hours, BLS	April 1989

Note: All series are expressed as deviations from trend, with the trend fitted by the phase-average trend method. The turning point dates were chosen by the computer program except for the real GNP, where the 1st Quarter, 1989 is the high to date (through 3rd Quarter). In each case, however, the peaks are tentative, because the subsequent declines have not been long enough or deep enough to make them comparable with earlier growth cycle contractions.

Center for International Business Cycle Research, November 1989.

Another uncertainty pertains to the sequel. Will the slowdown become a recession, as in 1978-80, or remain a slowdown until the economy speeds up again? The forecasts for 1989-90 based on our long-leading index and our leading employment index, circulated in the October Supplement to *Recession-Recovery Watch*, point to continued slowdown, not to a recession. The long-leading index forecast the year-over-year growth in real GNP, 1989-90, to be 2.6%. The leading employment index forecast the average unemployment rate during the six-months ending March 1990 to be 5.3%, only slightly above the 5.2% average for the six months ending last June. The past record has shown these unemployment forecasts offer a useful signal of recession when they show an increase of 0.5 percentage points or more – much larger than what it now shows for early 1990.

Charts B, C and D bring up to date the comparisons made in the August *Recession-Recovery Watch* between the current slowdown and previous slowdowns. For real GNP the third quarter growth rate extends the current slowdown but is inconclusive on whether it is following a pre-recession pattern. Resemblance to the average pattern for the four slowdowns that were *not* followed by recessions is more decisively shown by the growth rates for both the long-leading and the short-leading indexes in Charts C and D. So far, we still seem to be on the soft-landing track.

CHART B. REAL GNP GROWTH RATES BEFORE AND AFTER GROWTH CYCLE PEAKS

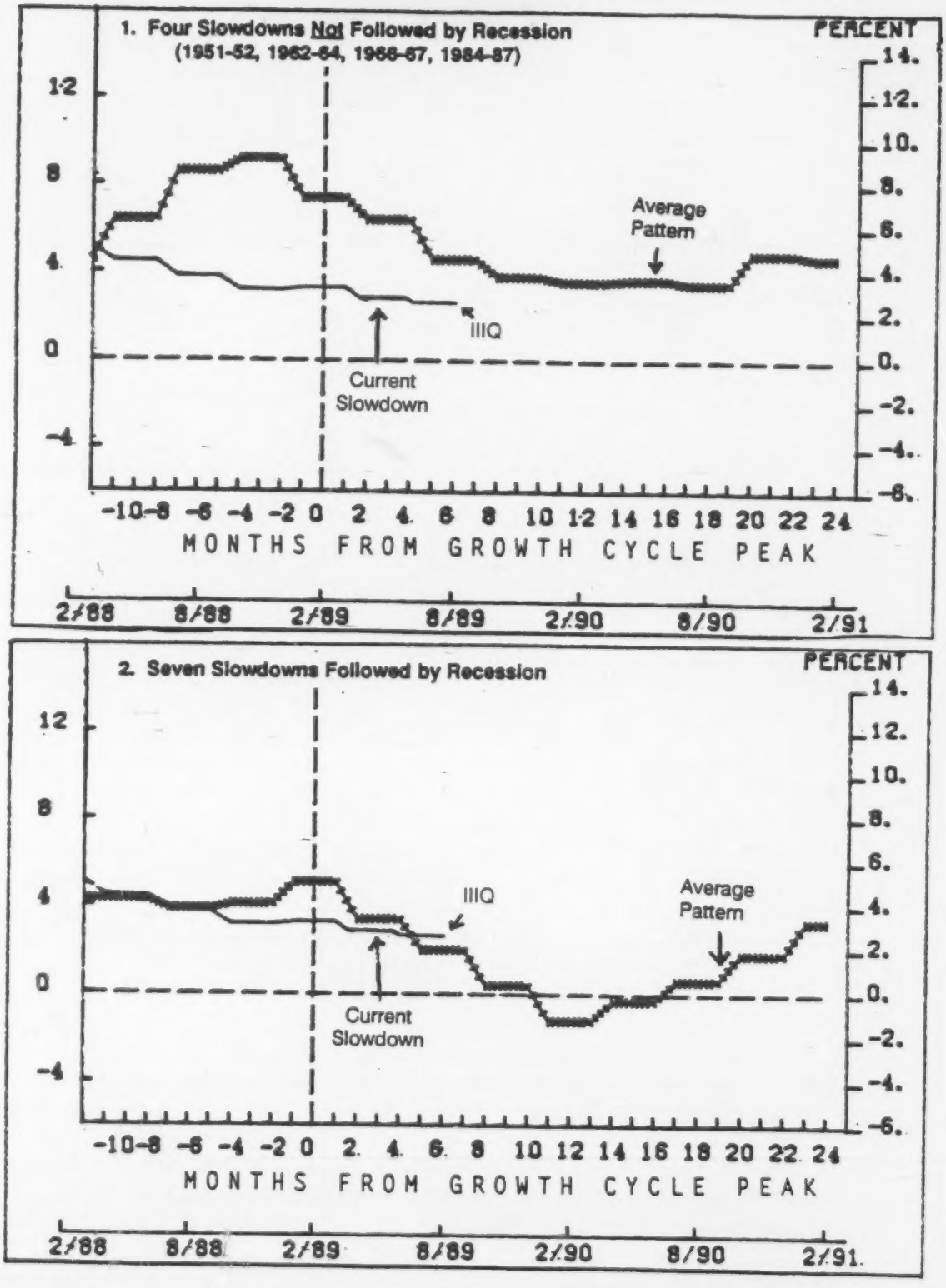
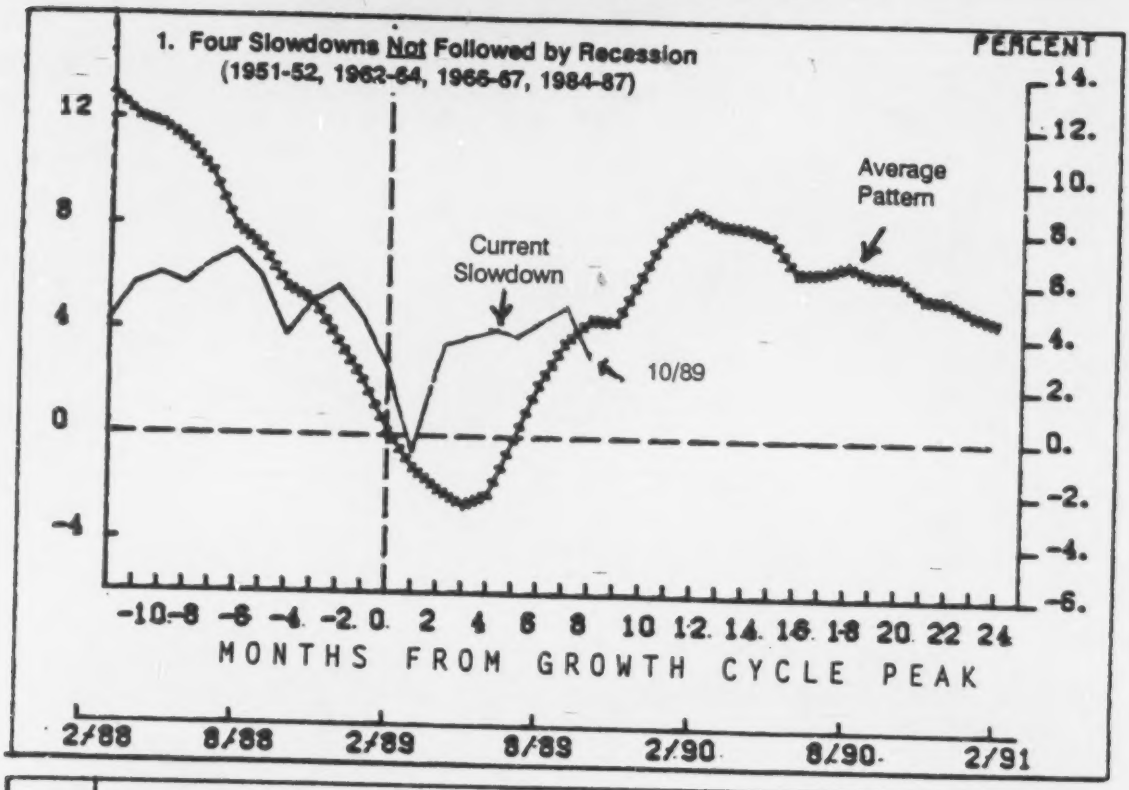


CHART C. LONG-LEADING INDEX GROWTH RATES BEFORE AND AFTER GROWTH CYCLE PEAKS



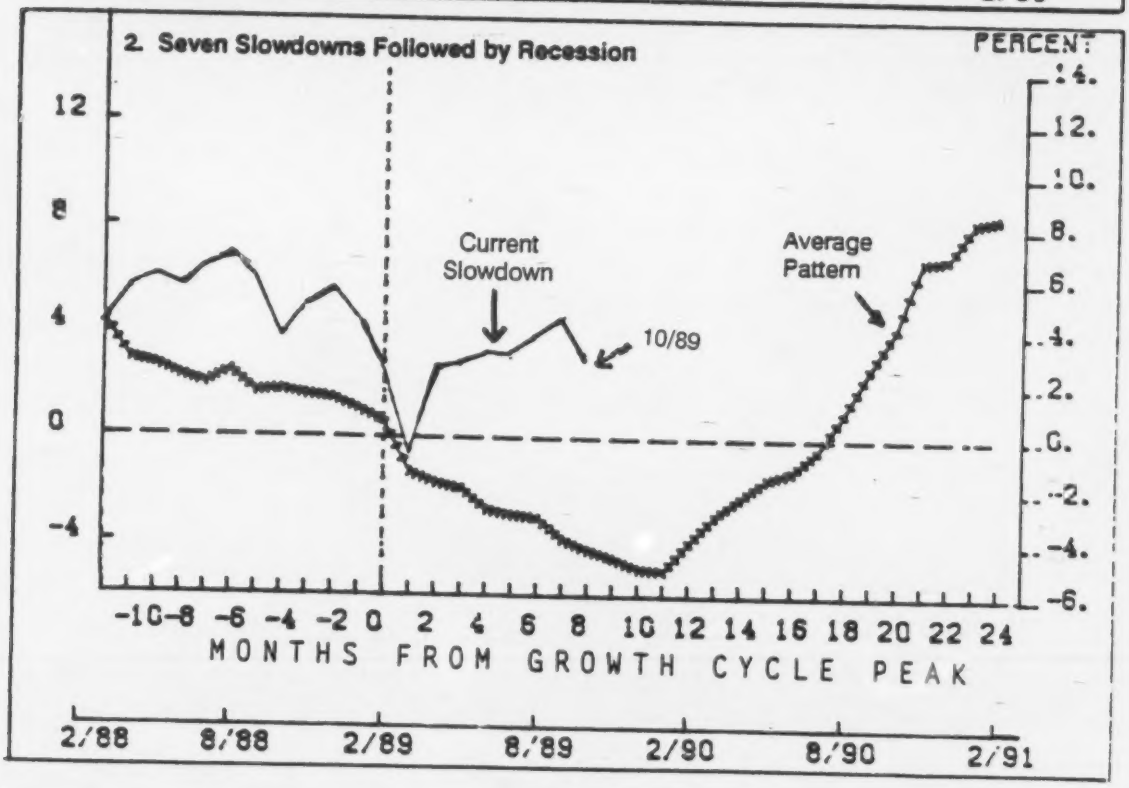
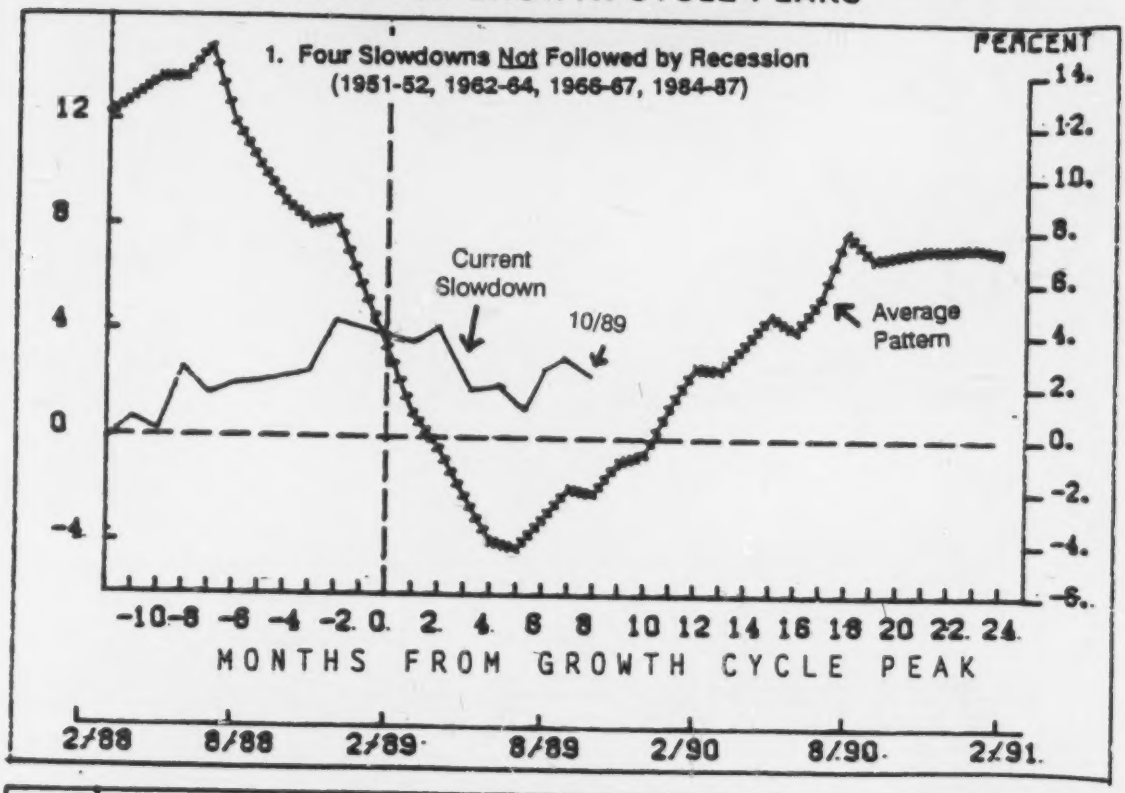
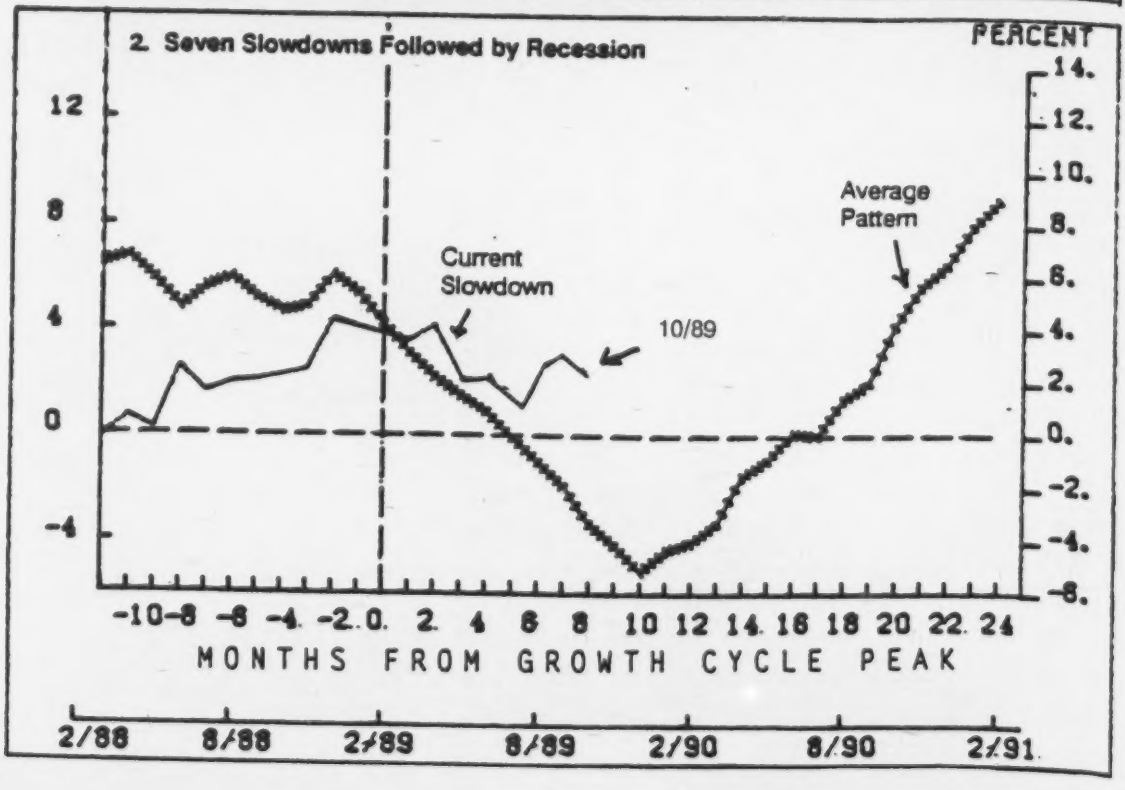


CHART D. SHORT-LEADING INDEX GROWTH RATES BEFORE AND AFTER GROWTH CYCLE PEAKS



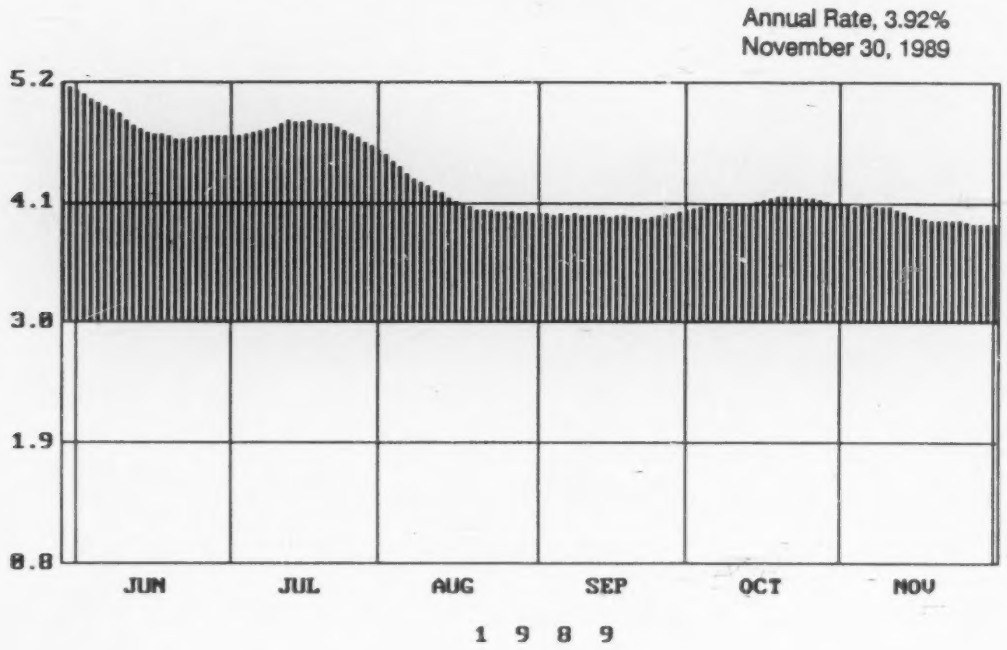


Inflation Still Cooling

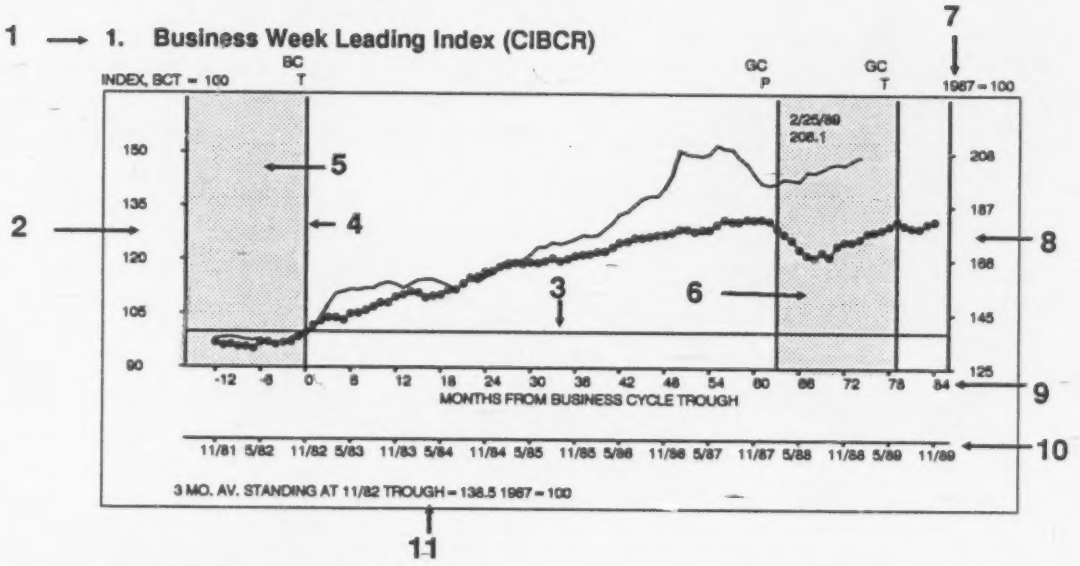
Our new daily inflation index, shown for the last few months in Chart E, has continued to drift down in November, reaching 3.9% on November 30. This measure is constructed from various prices that are quoted daily in the commodity markets and from other market indicators available daily that reflect inflationary pressures, such as Treasury bill rates, exchange rates, and gold prices. Historical tests extending back to 1968 have shown that the resulting index tracks the consumer price inflation rate fairly closely.

The leading inflation index has leveled off since July, following the steep decline that began early in 1989. Hence it is suggesting that the decline in inflation that has accompanied the slowdown in real economic growth, may taper off. Nevertheless, as long as the economic slowdown continues, inflation is likely drift down as well.

CHART E.
DAILY INFLATION INDEX



HOW TO READ ACTUAL LEVEL CHARTS



1 CHART NUMBER AND TITLE: If the title does not say "growth rate," then the chart is for the actual level rather than for the growth rate.

2 LEFT-HAND SCALE measures movements in both current and past expansion, as a percentage of business cycle trough standings. This is the common vertical scale along which the expansions are compared.

3 HORIZONTAL LINE shows levels at reference trough (100) for current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansion, which are all aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT) represents the 1966-67 growth recession.

7 UNITS for right-hand scale refer only to the current expansion.

8 RIGHT-HAND SCALE refers only to the current expansion. It is a transformation of the left-hand scale to show the current expansion in original units rather than with trough standing at 100.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both the current and past expansions. This is the common time scale along which the expansions are compared.

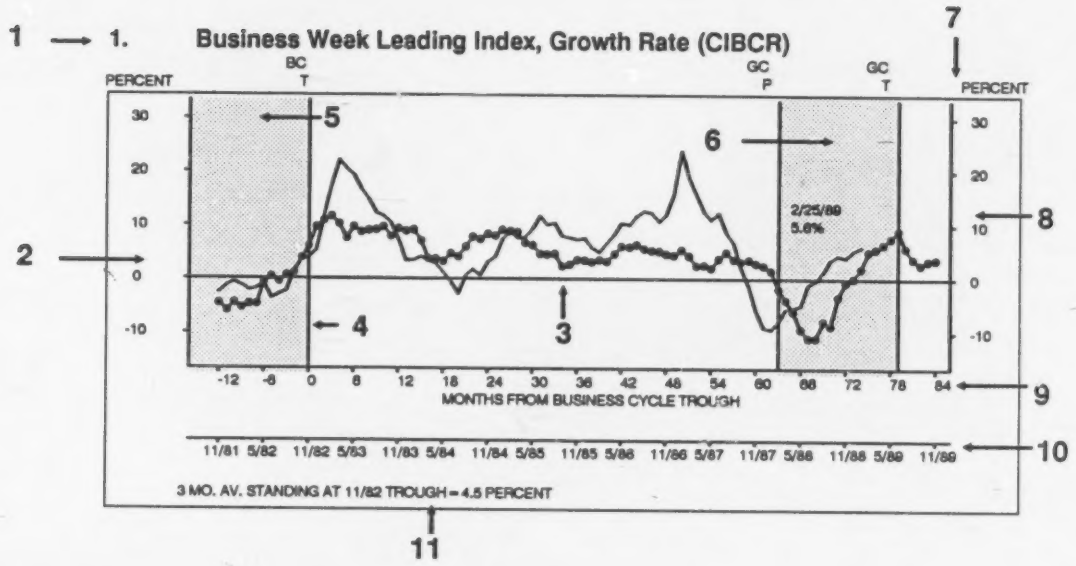
10 ACTUAL DATES refer only to the current expansion.

11 STANDING AT THE TROUGH is the level at which the current expansion began, and is calculated as the 3-month average centered on the trough month.

oooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

———————SOLID LINE indicates the current expansion, which began in November 1982, or Q4, 1982.

HOW TO READ GROWTH RATE CHARTS



1 CHART NUMBER AND TITLE: If the title says "growth rate," then the chart is for the 6-month smoothed growth rate, rather than the actual level. These growth rates are obtained by dividing the current month's figure by the average for the 12 preceding months, and expressing the result as a compound annual rate.

2 LEFT-HAND SCALE (same as the right-hand scale) shows growth rates in percent for both current and past expansions.

3 HORIZONTAL LINE is drawn at 0% growth rate, a natural reference level for both current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansions, which are aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the trough of the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT), represents the 1966-67 growth recession.

7 UNITS for both scales in percent refer to growth rates for both current and past expansions.

8 RIGHT-HAND SCALE (same as left-hand scale) shows growth rates in percent for both current and past expansions.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both current and past expansions. This is the common time scale along which the expansions are compared.

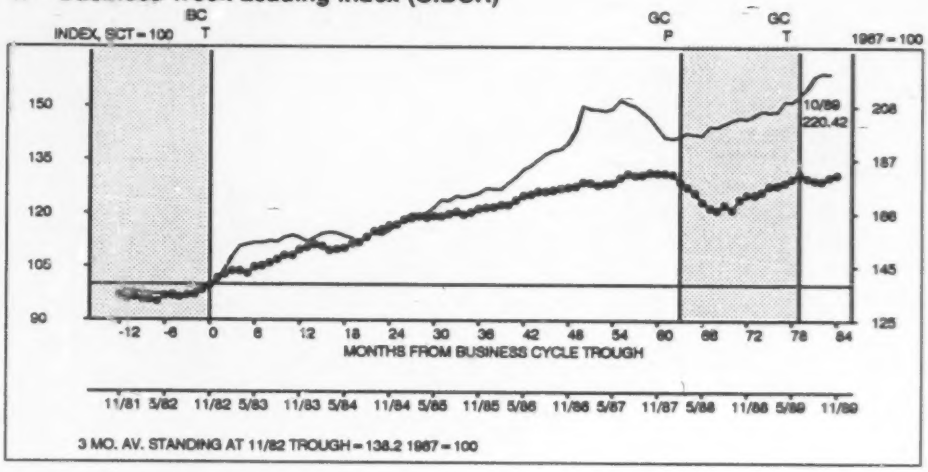
10 ACTUAL DATES refer only to the current expansion.

11 STANDING AT THE TROUGH is the growth rate at the time the current expansion began, and is calculated as the 3- month average centered on the trough month.

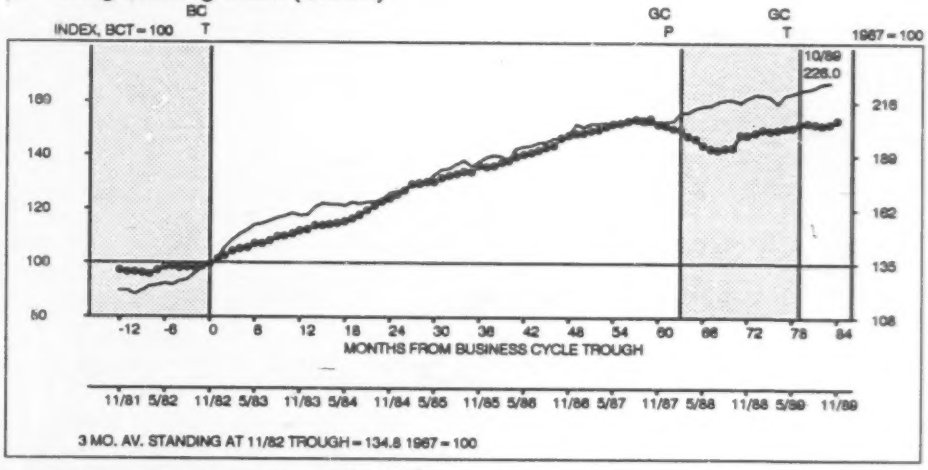
oooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

———————— SOLID LINE indicates the current expansion, which began in November 1982, or Q4 1982.

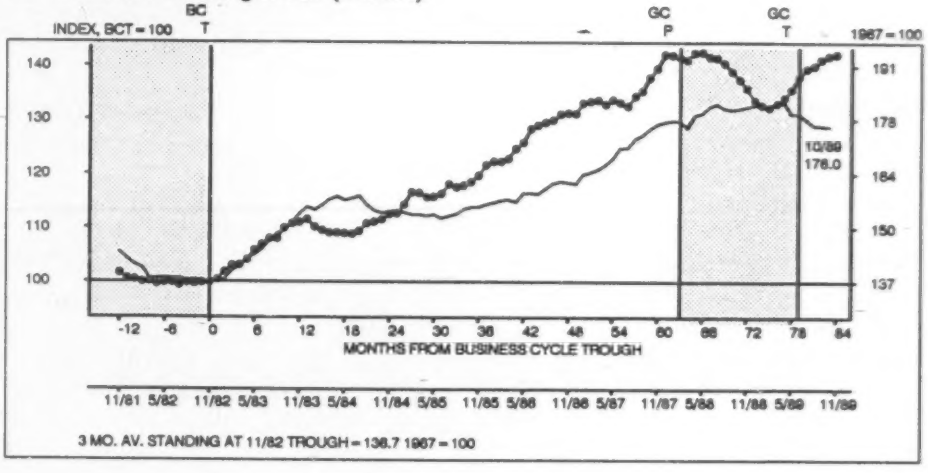
1. Business Week Leading Index (CIBCR)



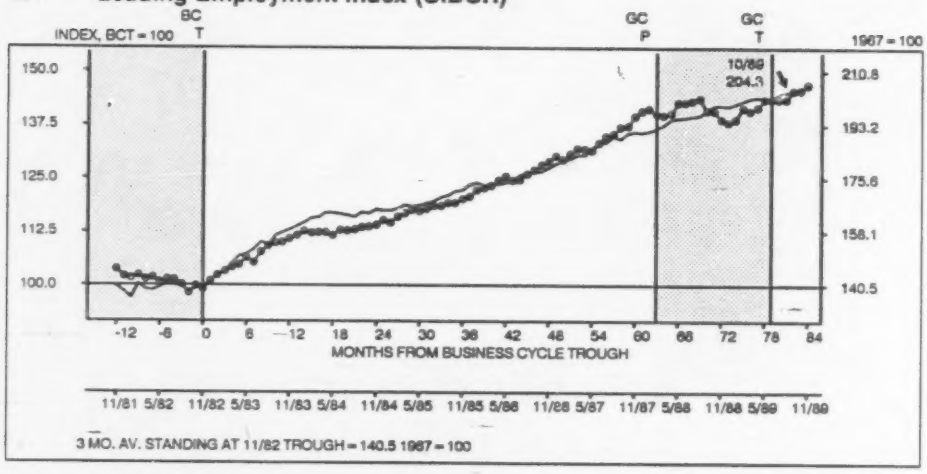
2. Long-Leading Index (CIBCR)



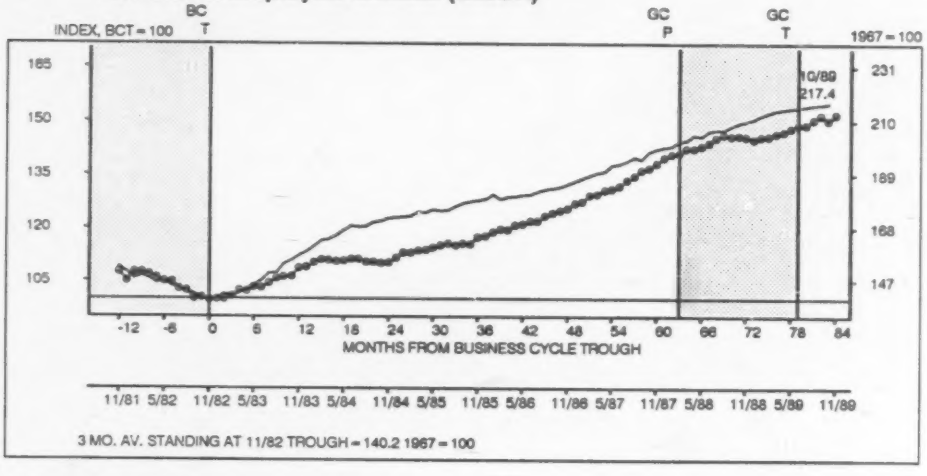
3. N.A.P.M. Leading Index (CIBCR)



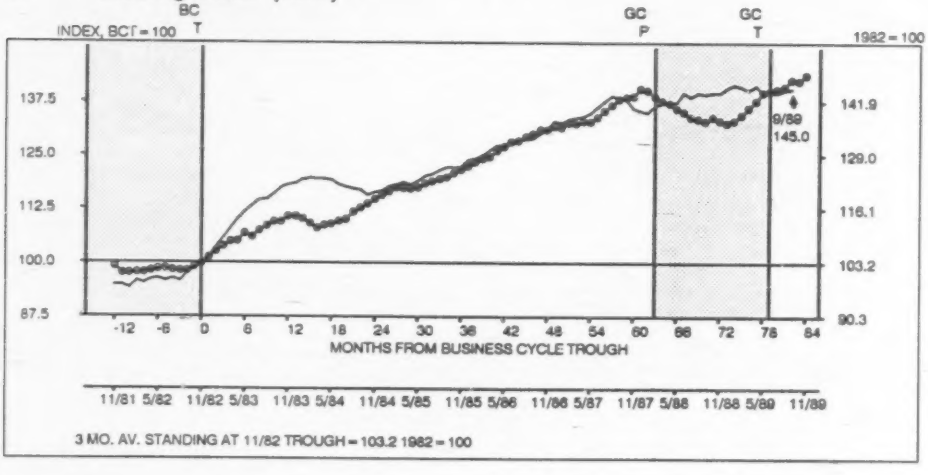
4. Leading Employment Index (CIBCR)



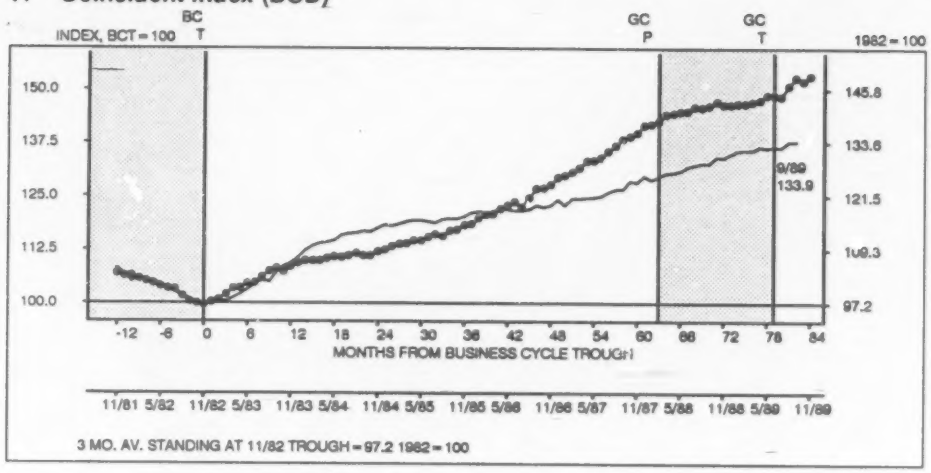
5. Coincident Employment Index (CIBCR)



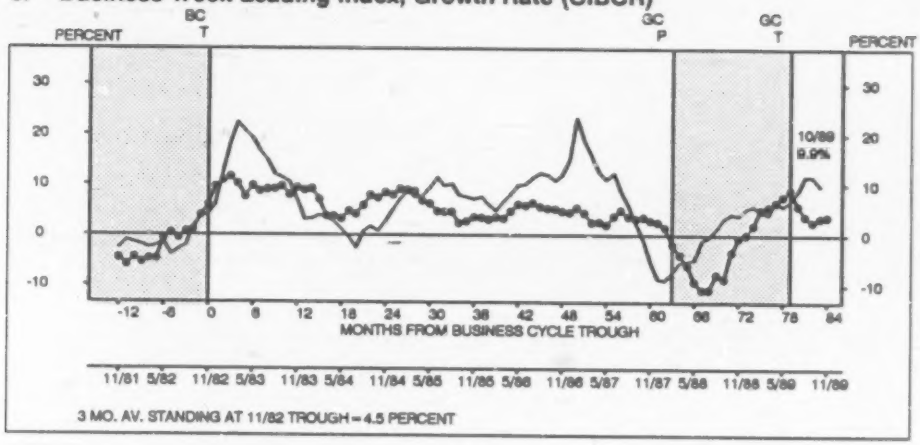
6. Leading Index (BCD)



7. Coincident Index (BCD)

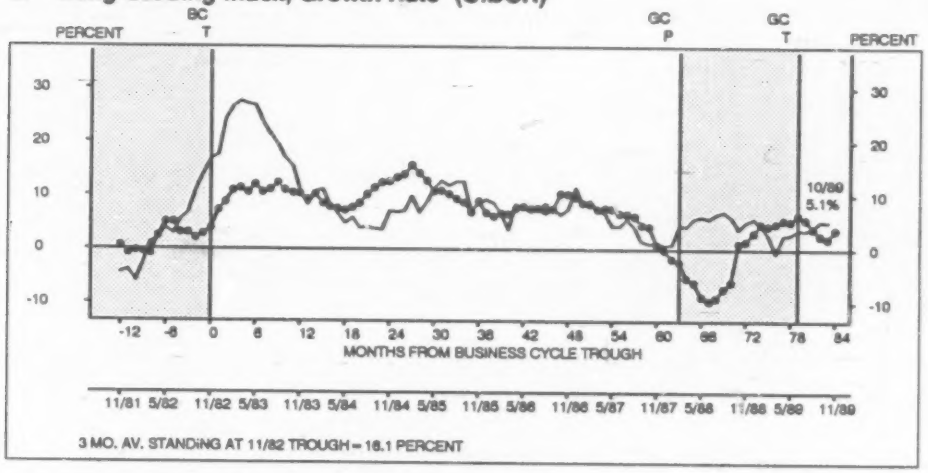


8. Business Week Leading Index, Growth Rate (CIBCR)



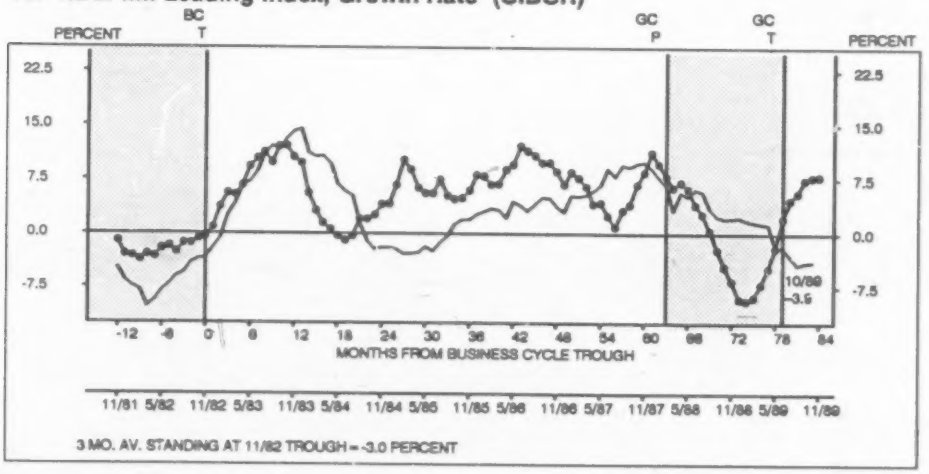
No recession is predicted by the Business Week Leading Index ...

9. Long-Leading Index, Growth Rate (CIBCR)



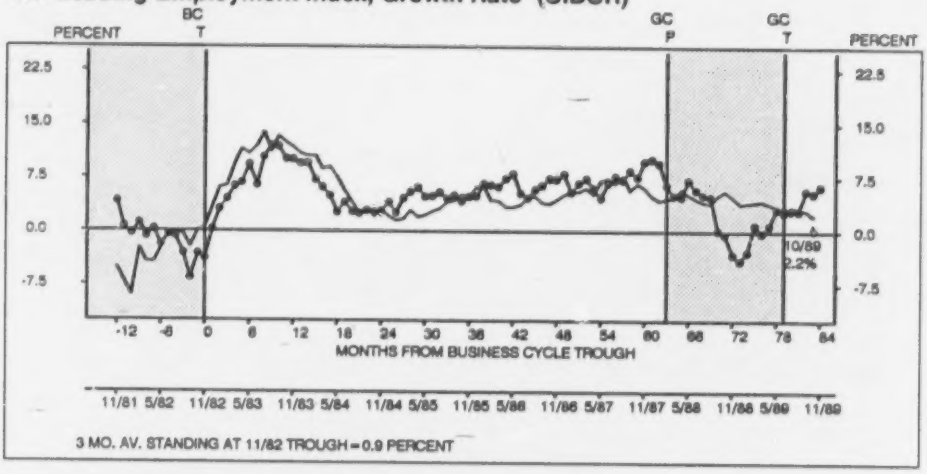
... or even by the far-seeing Long-Leading Index ...

10. N.A.P.M. Leading Index, Growth Rate (CIBCR)

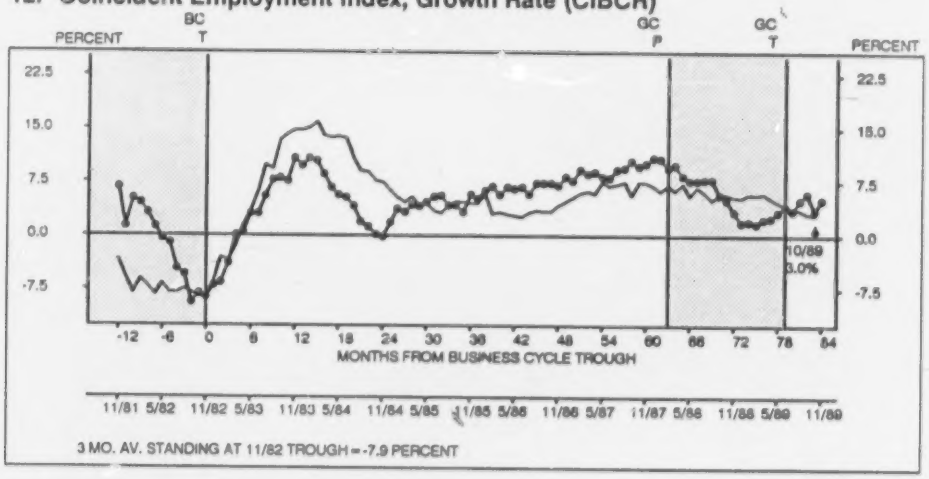


... but the manufacturing sector may continue to slump .

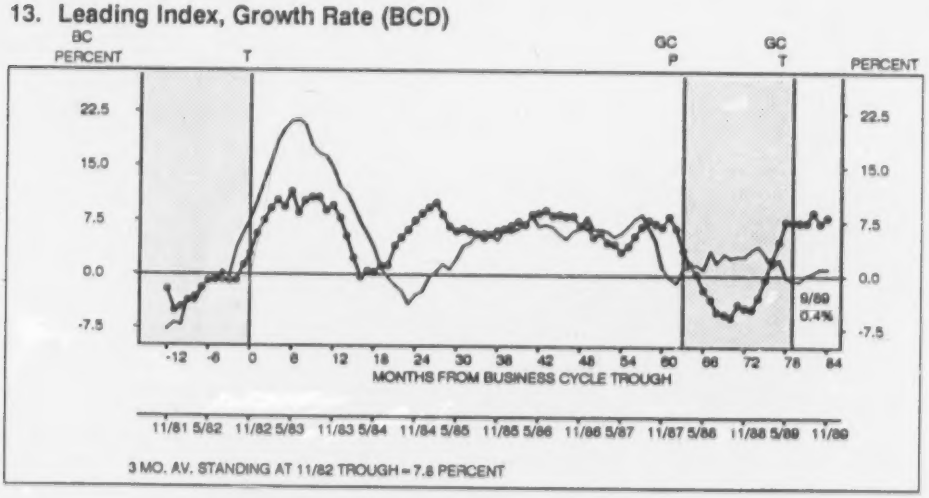
11. Leading Employment Index, Growth Rate (CIBCR)



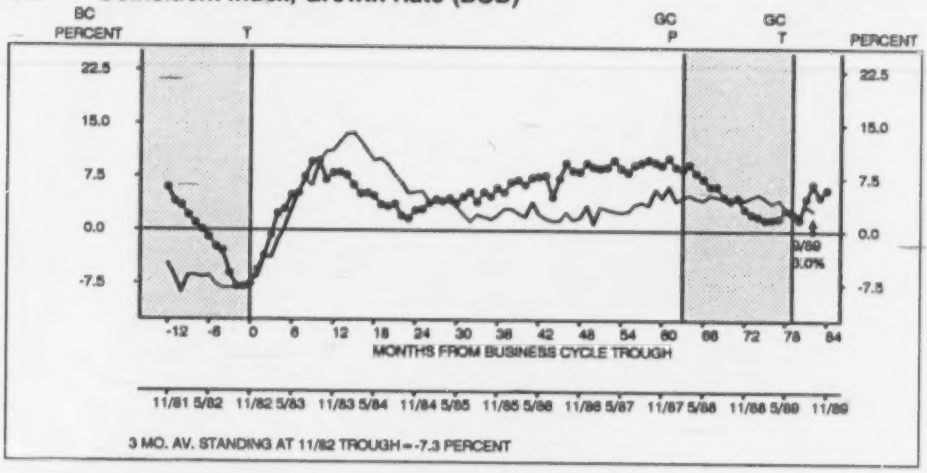
12. Coincident Employment Index, Growth Rate (CIBCR)



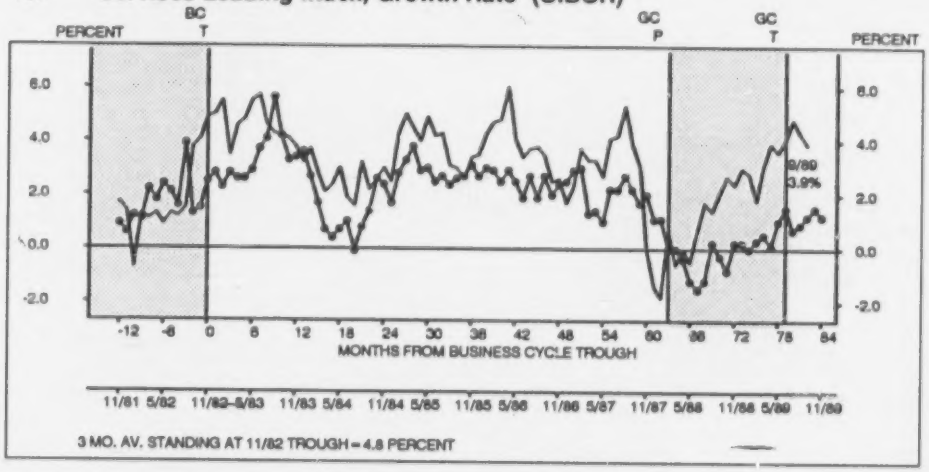
13. Leading Index, Growth Rate (BCD)



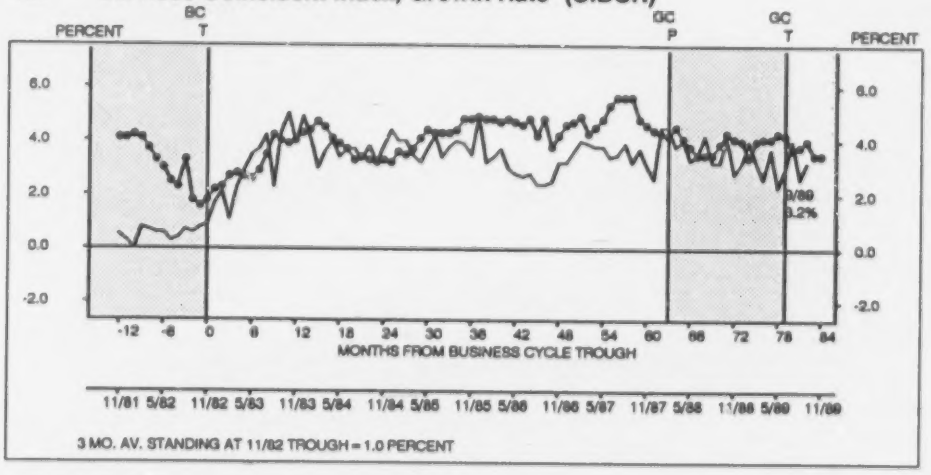
14. Coincident Index, Growth Rate (BCD)



15. Services Leading Index, Growth Rate (CIBCR)

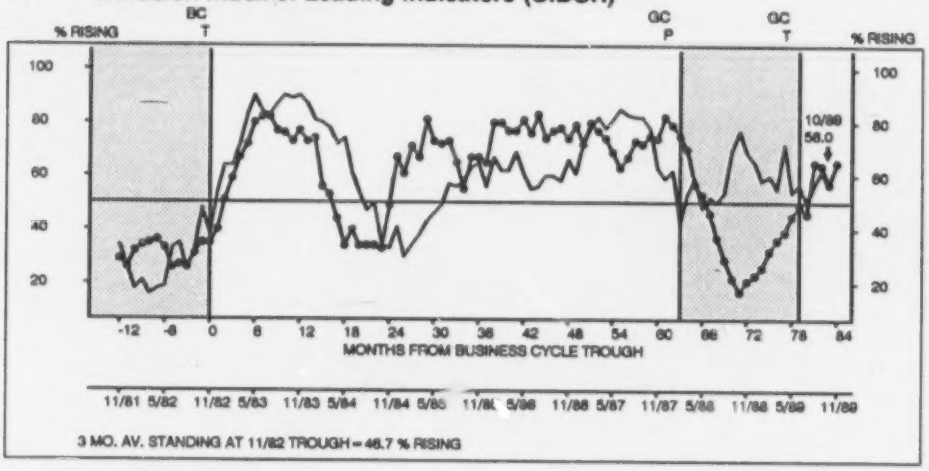


16. Services Coincident Index, Growth Rate (CIBCR)



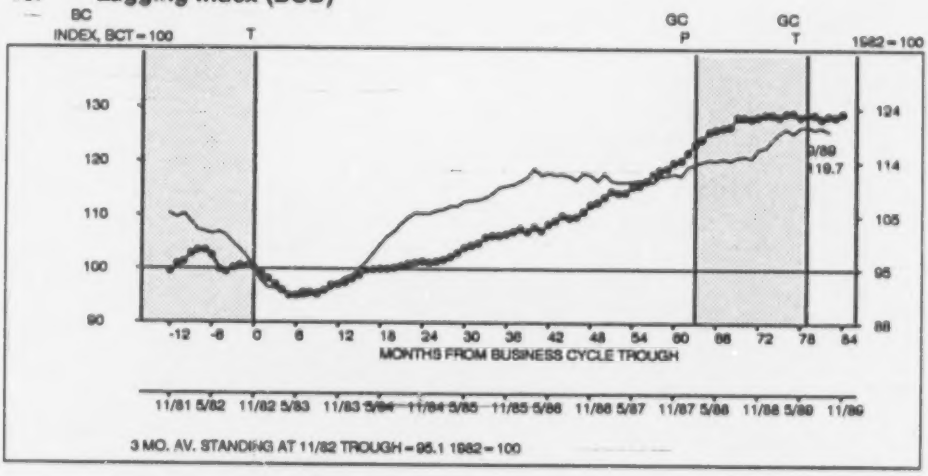
If manufacturing cannot pull the economy into a recession, one reason is the strength in the service sector.

17. Diffusion Index of Leading Indicators (CIBCR)

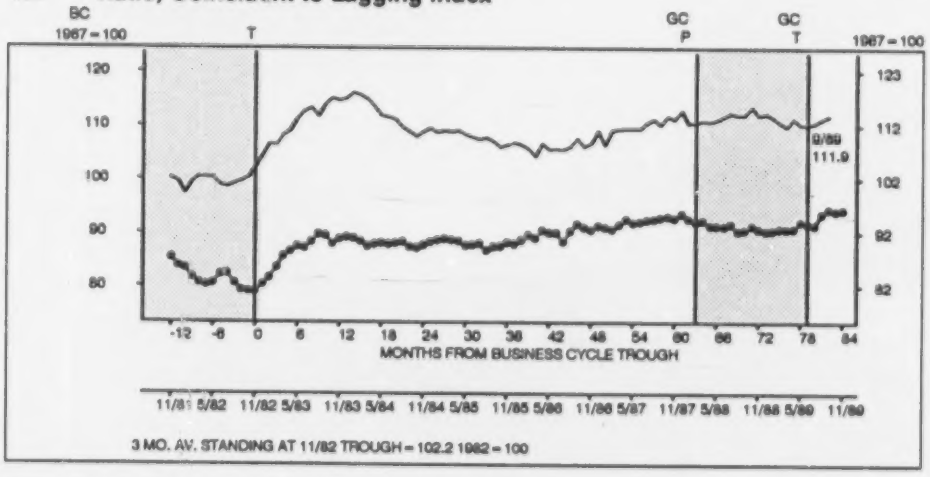


More leaders are rising than falling.

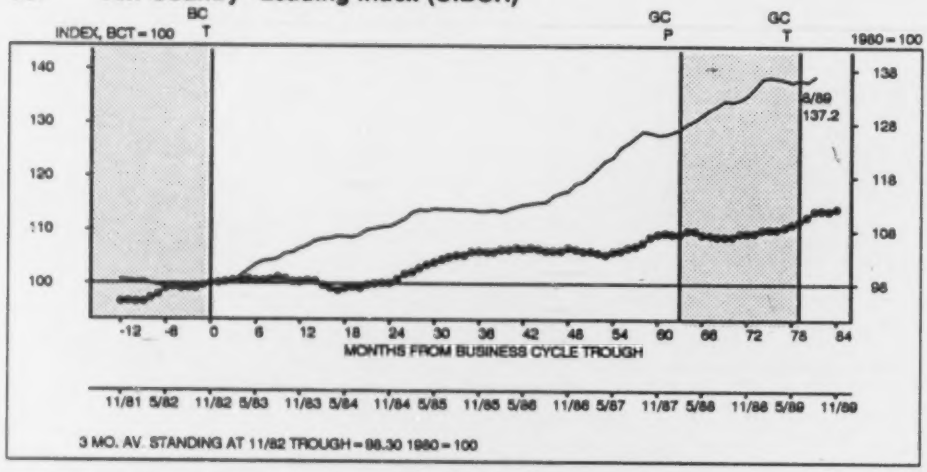
18. Lagging Index (BCD)



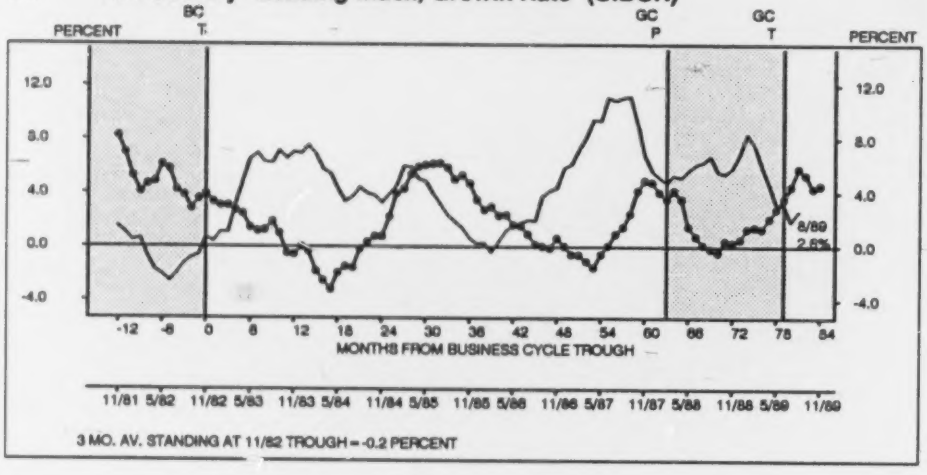
19. Ratio, Coincident to Lagging Index



20. Ten-Country* Leading Index (CIBCR)



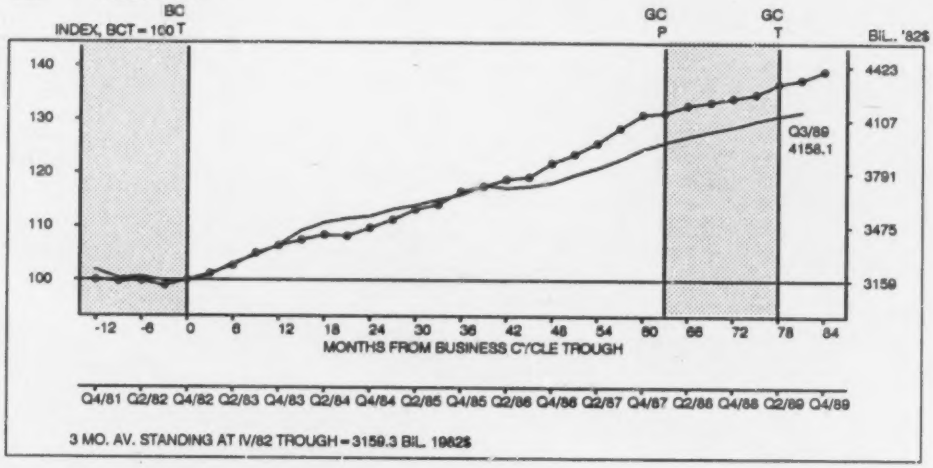
21. Ten-Country* Leading Index, Growth Rate (CIBCR)



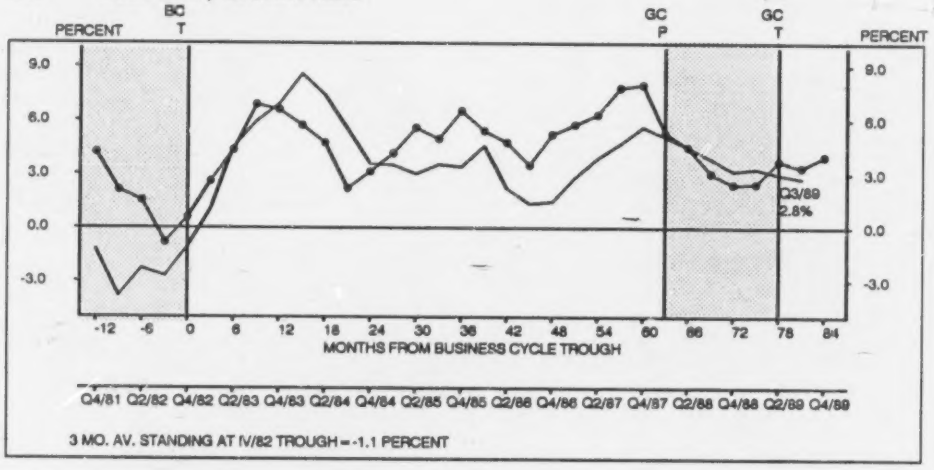
Growth abroad is likely to slow, dimming the prospects for growth in U.S. exports

*Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, R.O.C., Korea, R.O.K., and New Zealand.

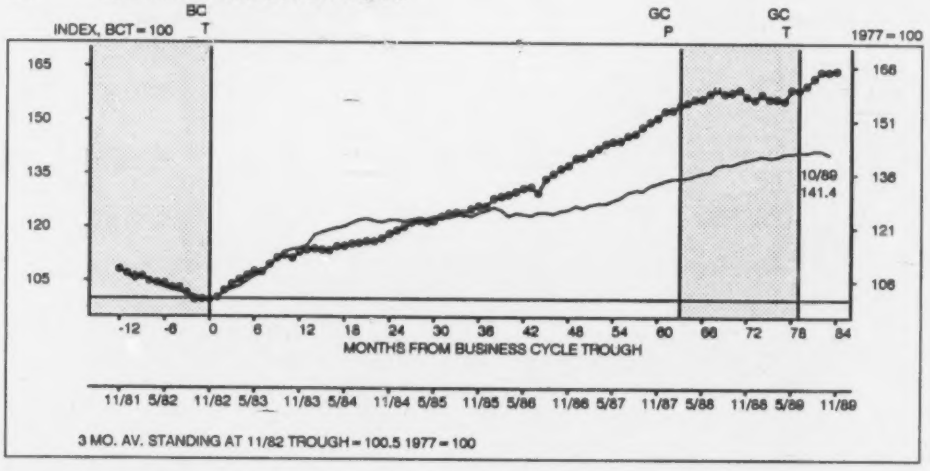
22. Real GNP



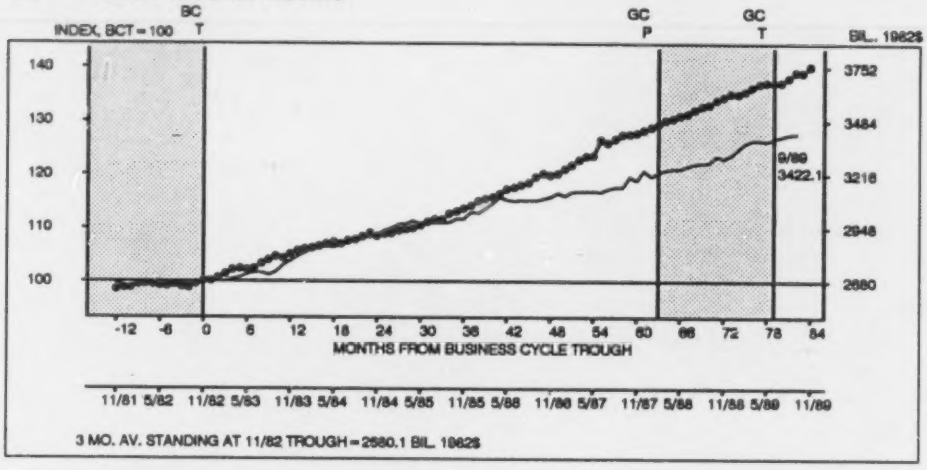
23. Real GNP, Growth Rate



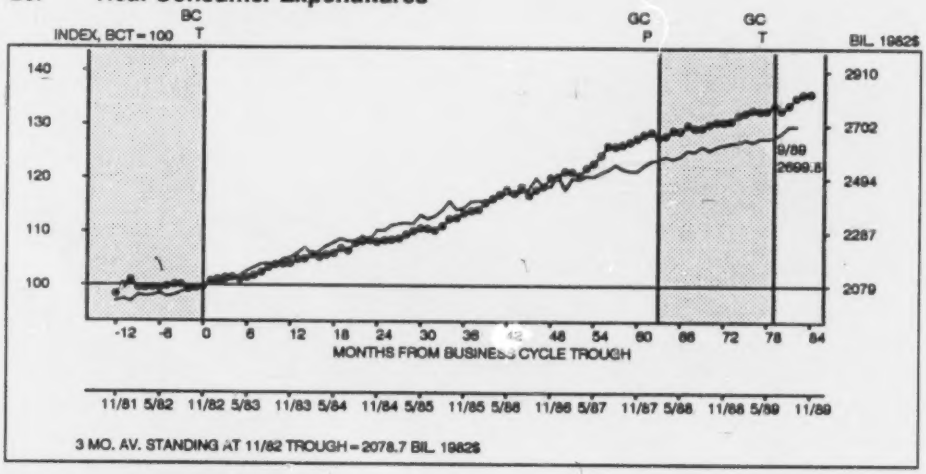
24. Industrial Production Index



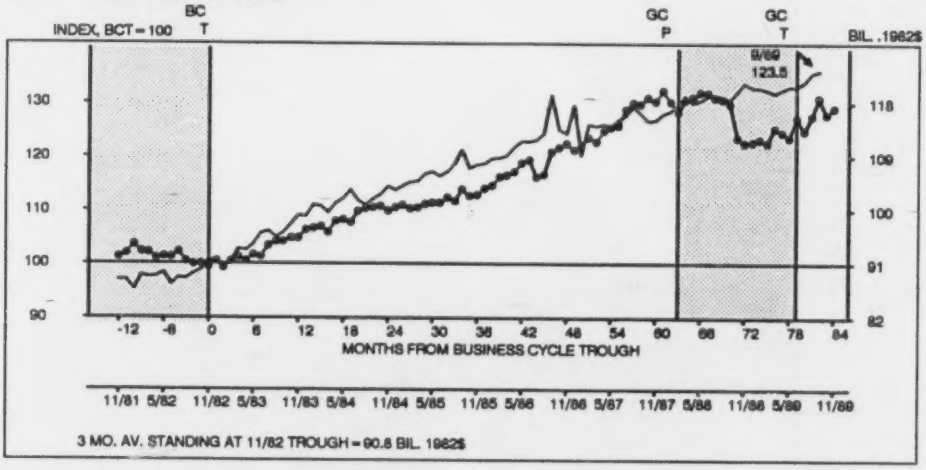
25. Real Personal Income



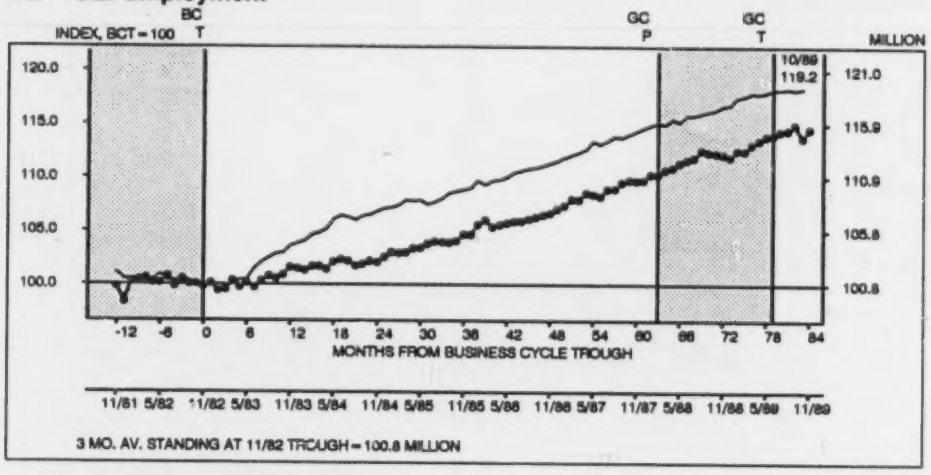
26. Real Consumer Expenditures



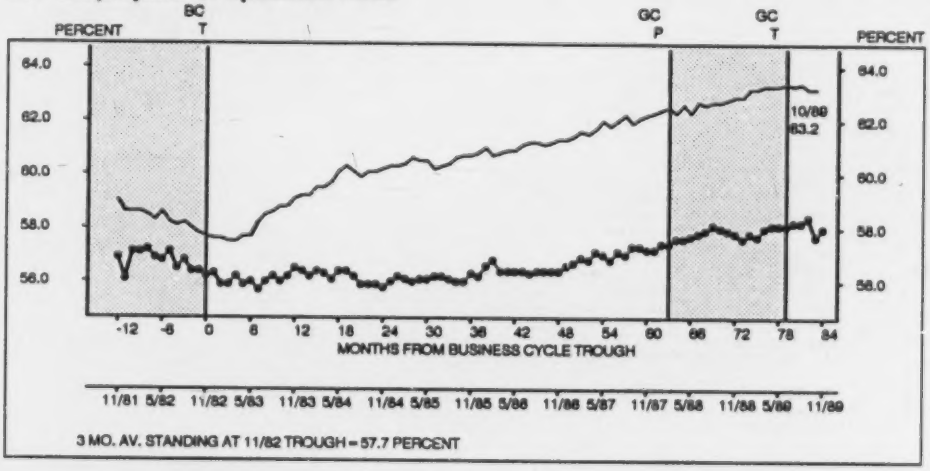
27. Real Retail Sales



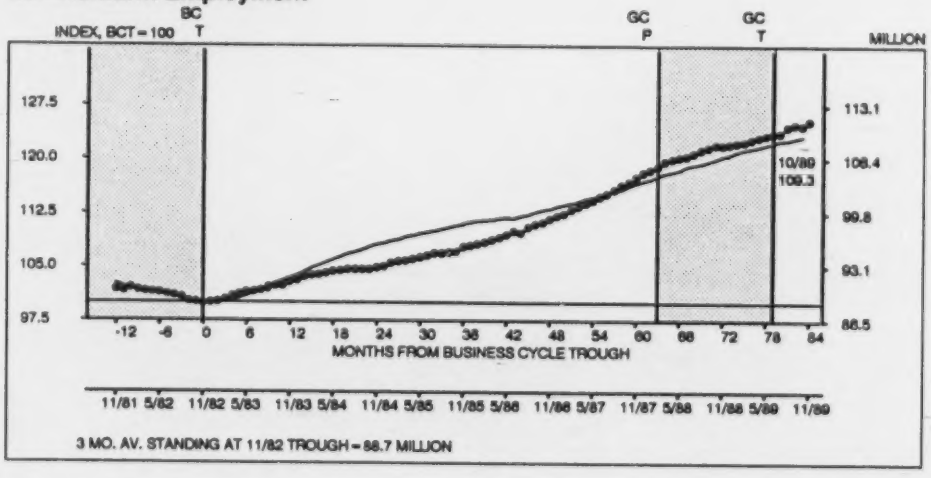
28. Total Employment



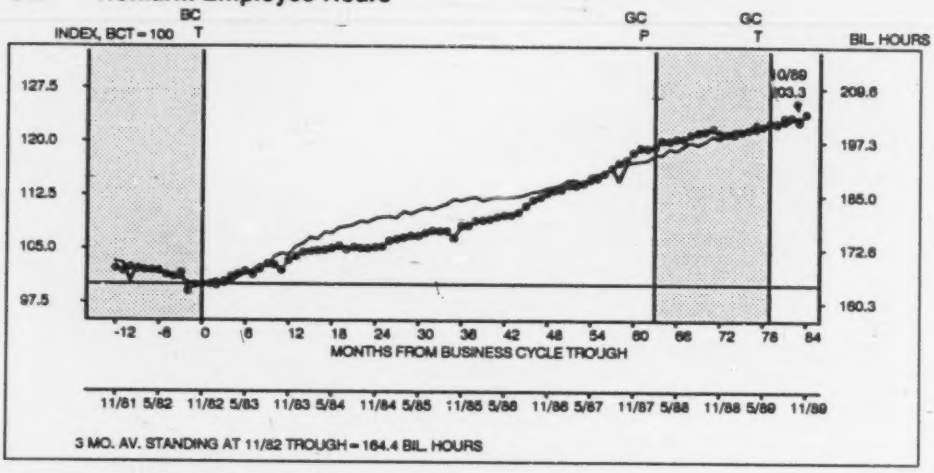
29. Employment/Population Ratio



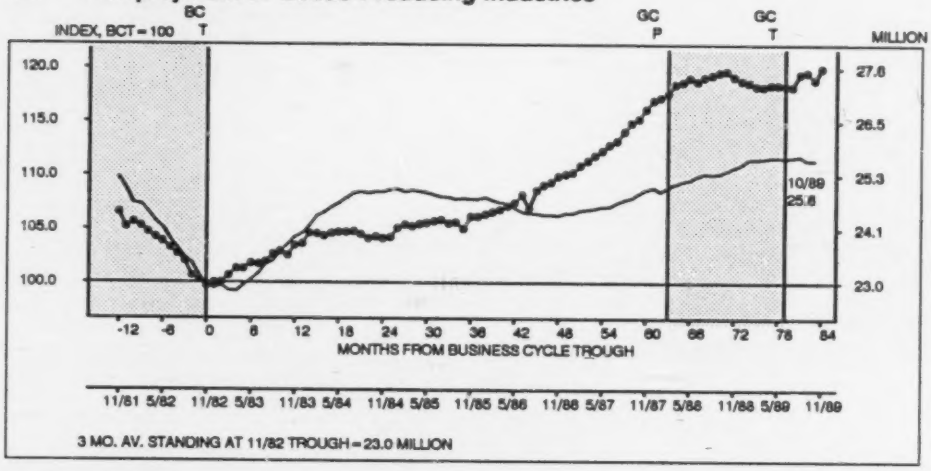
30. Nonfarm Employment



31. Nonfarm Employee-Hours

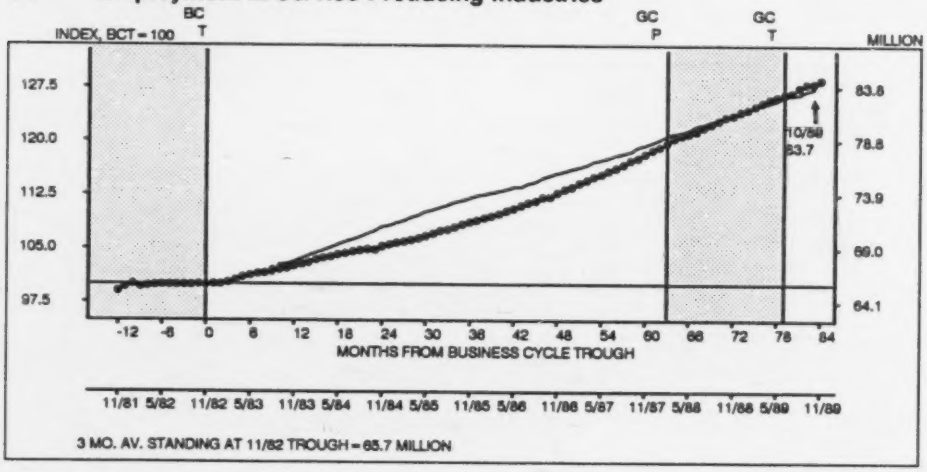


32. Employment in Goods-Producing Industries

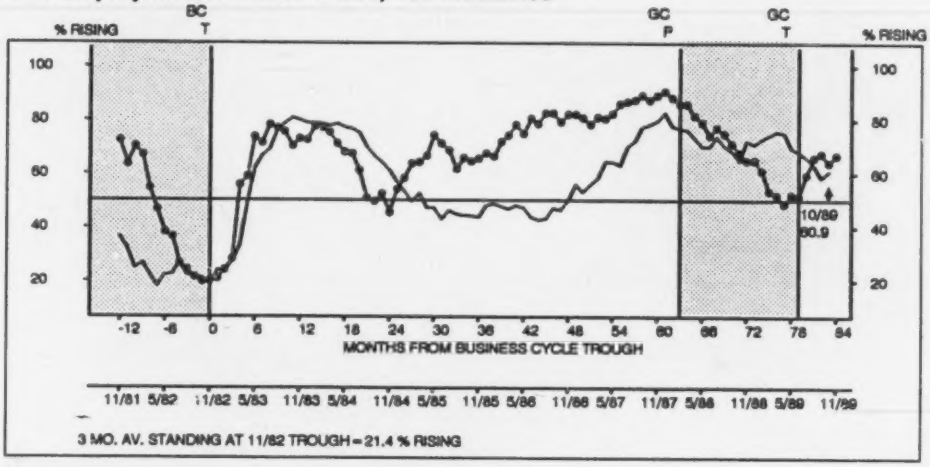


Here is where the slowdown is.

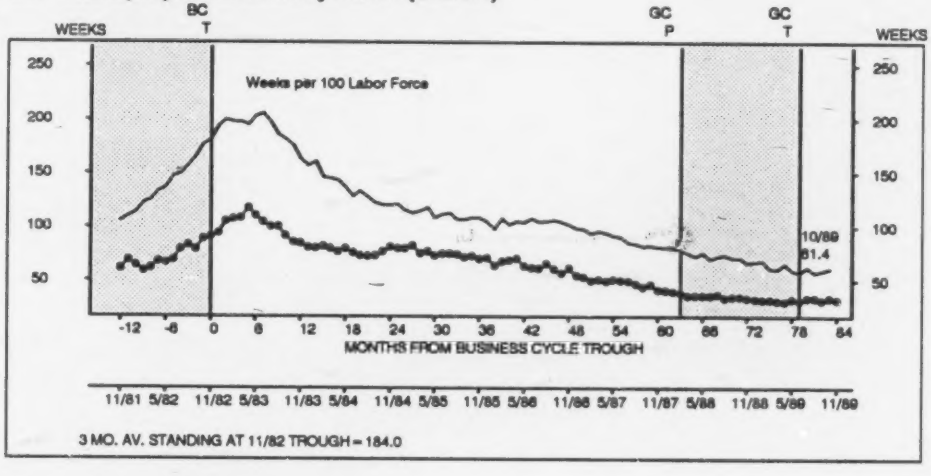
33. Employment in Service-Producing Industries



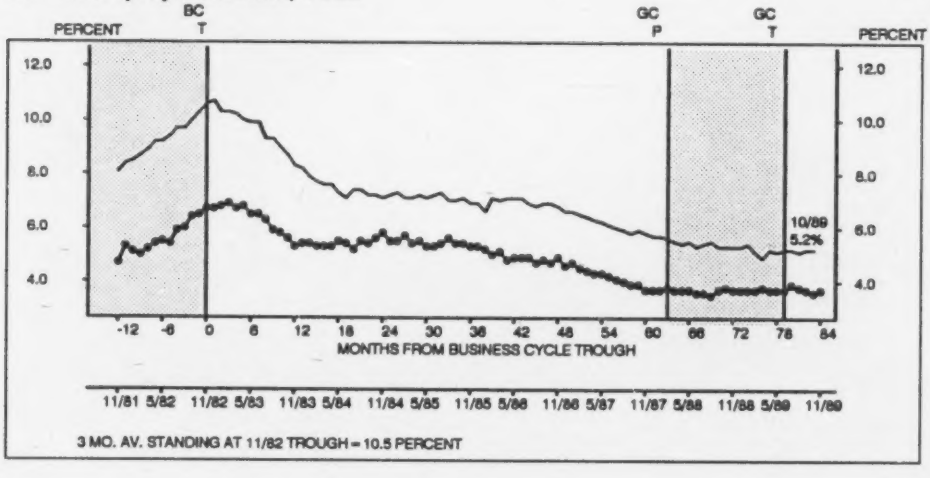
34. Employment Diffusion Index, 186 Industries



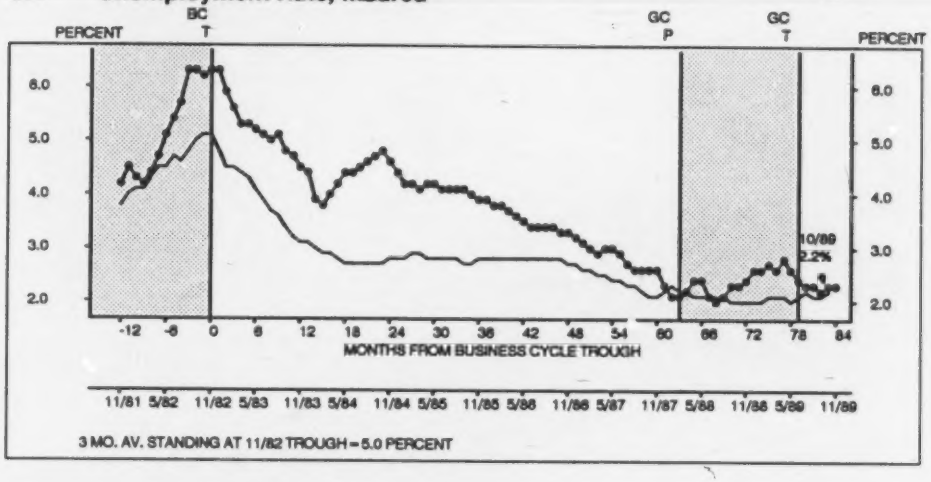
35. Unemployment Severity Index (CIBCR)



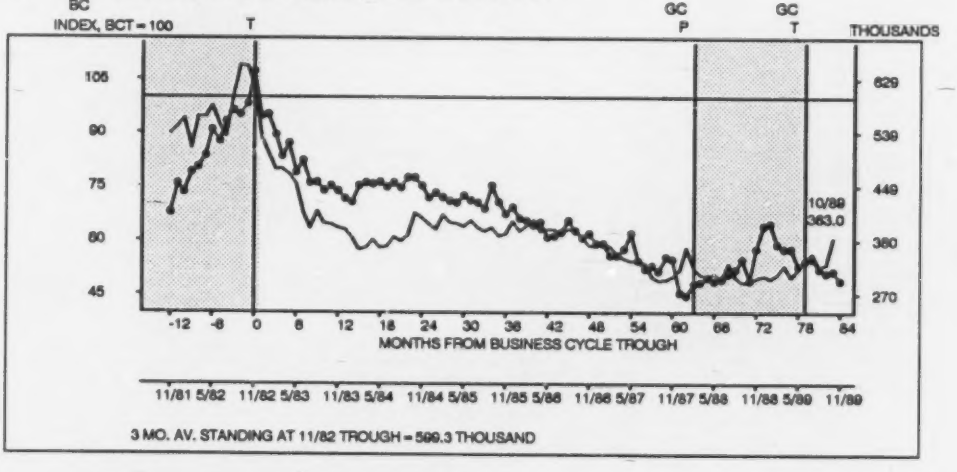
36. Unemployment Rate, Total



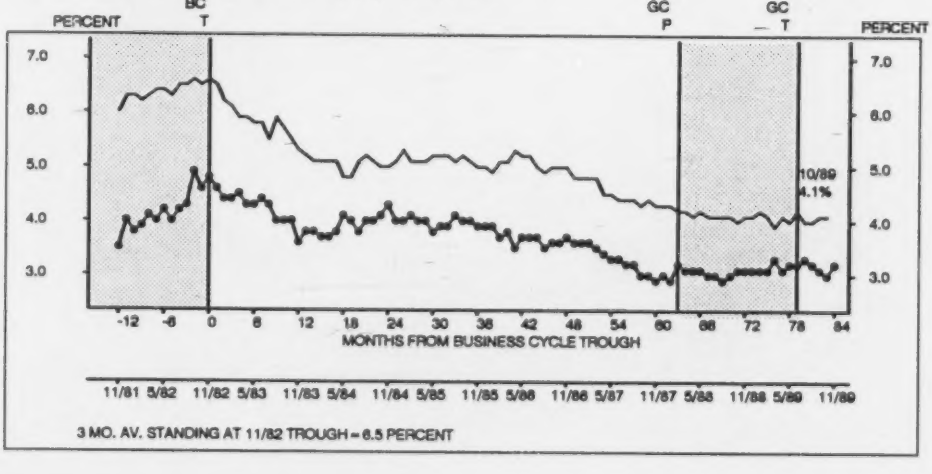
37. Unemployment Rate, Insured



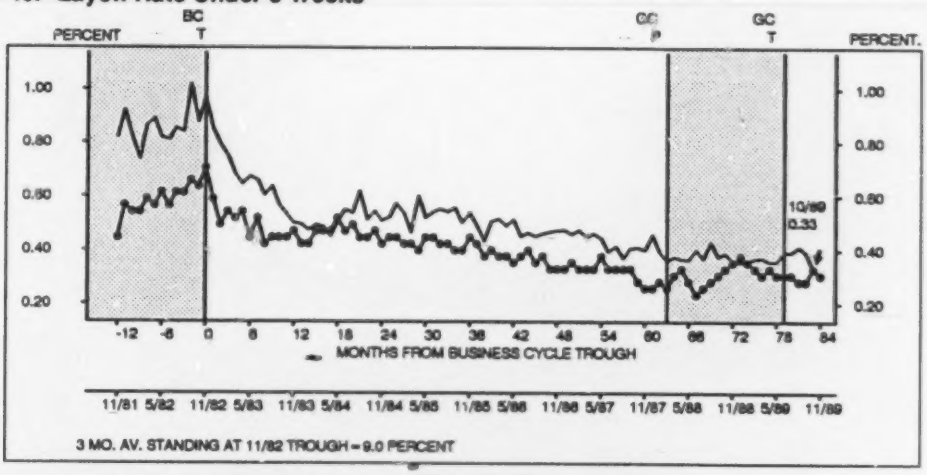
38. Initial Claims, Unemployment Insurance



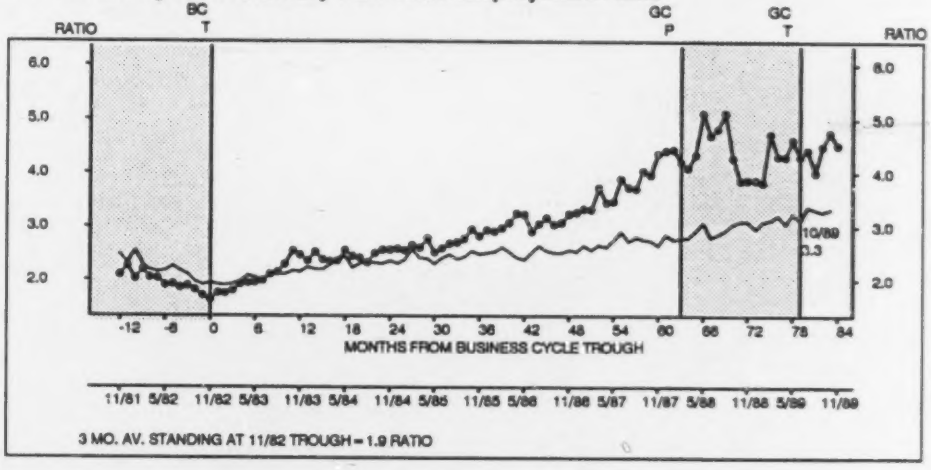
39. Short-Duration Unemployment Rate



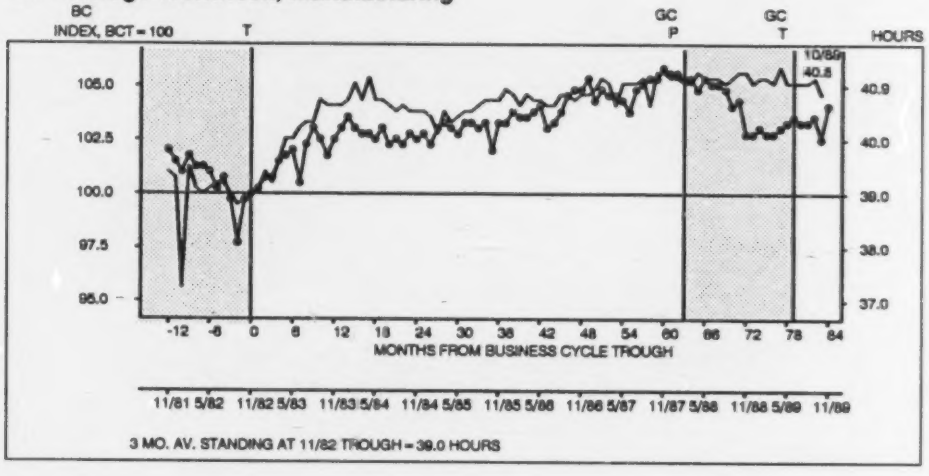
40. Layoff Rate Under 5 Weeks



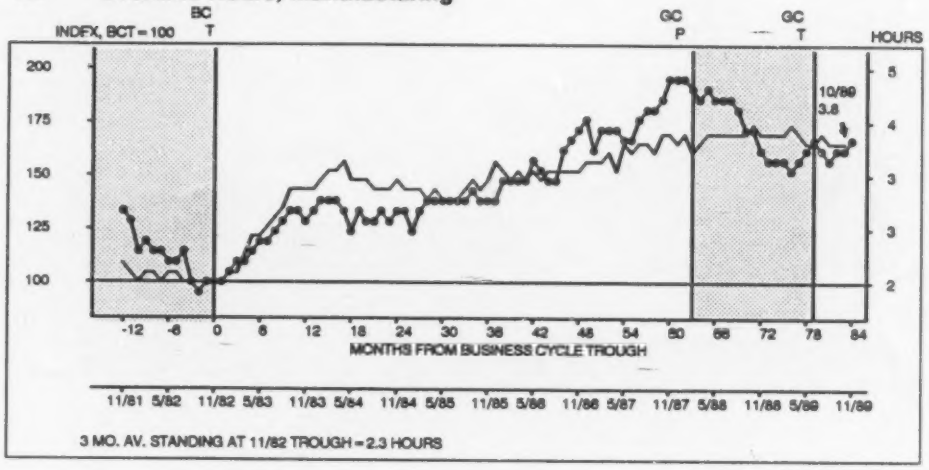
41. Voluntary to Involuntary Part-Time Employment Ratio



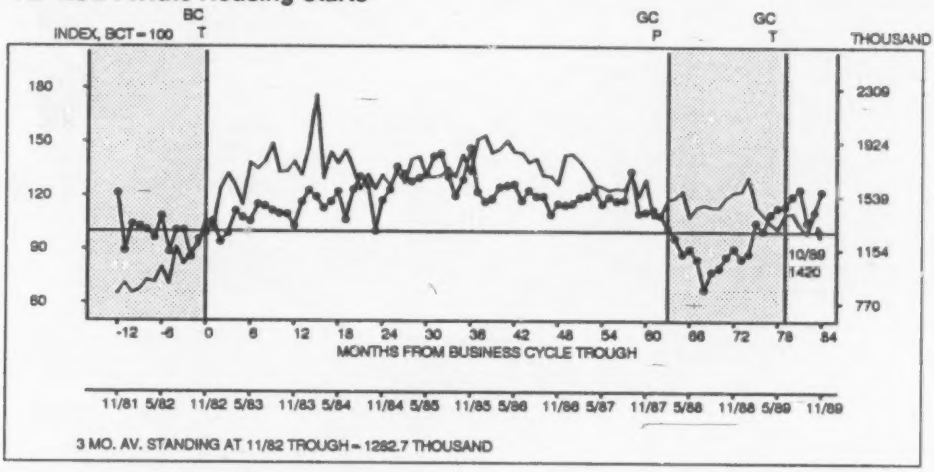
42. Average Workweek, Manufacturing



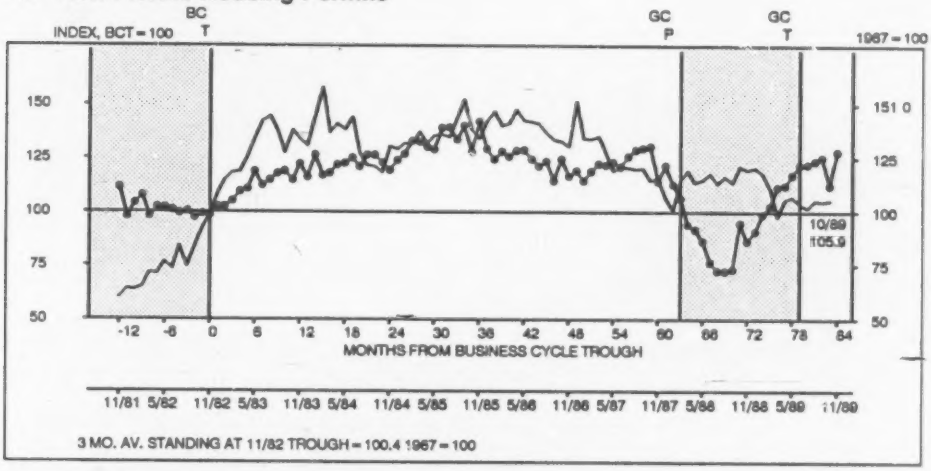
43. Overtime Hours, Manufacturing



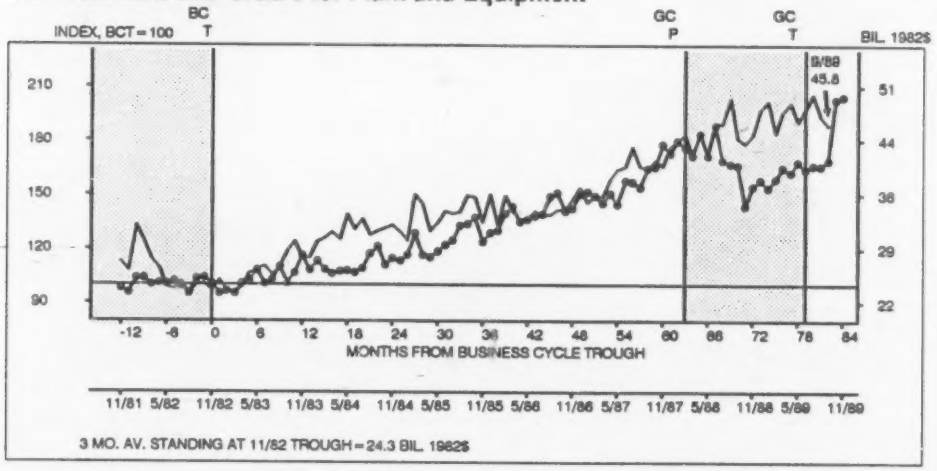
44. New Private Housing Starts



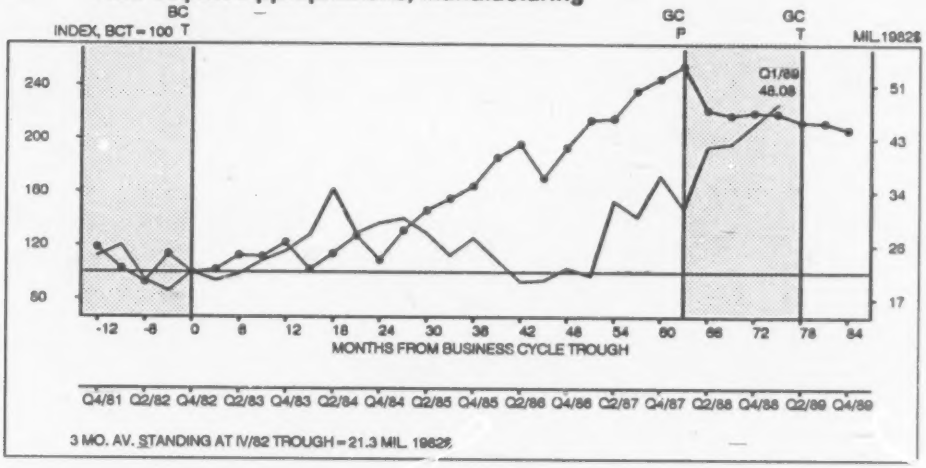
45. New Private Housing Permits



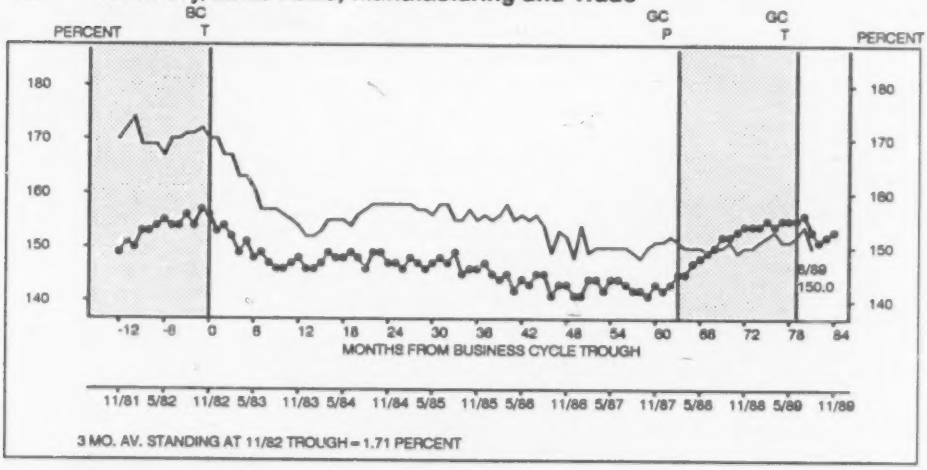
46. Contracts and Orders for Plant and Equipment



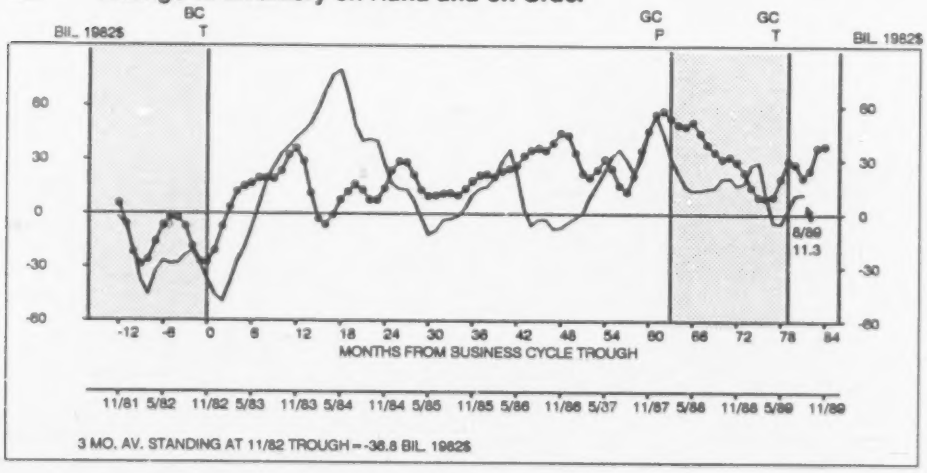
47. New Capital Appropriations, Manufacturing



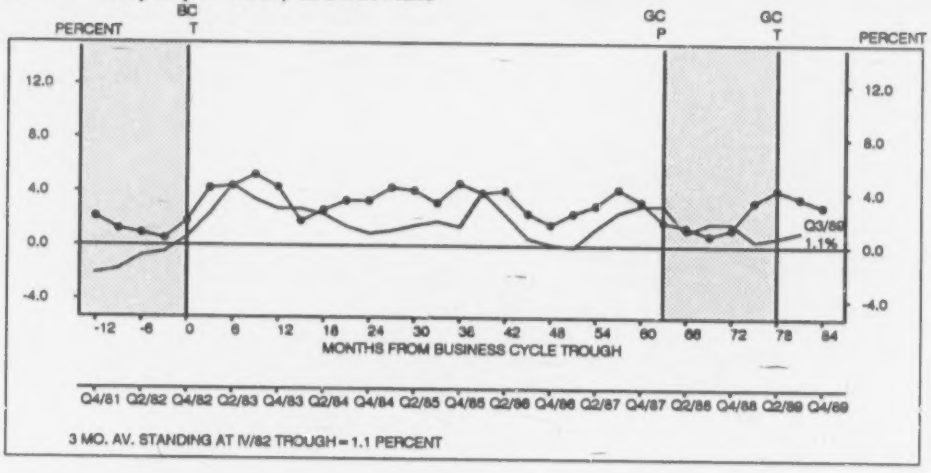
48. Inventory/Sales Ratio, Manufacturing and Trade



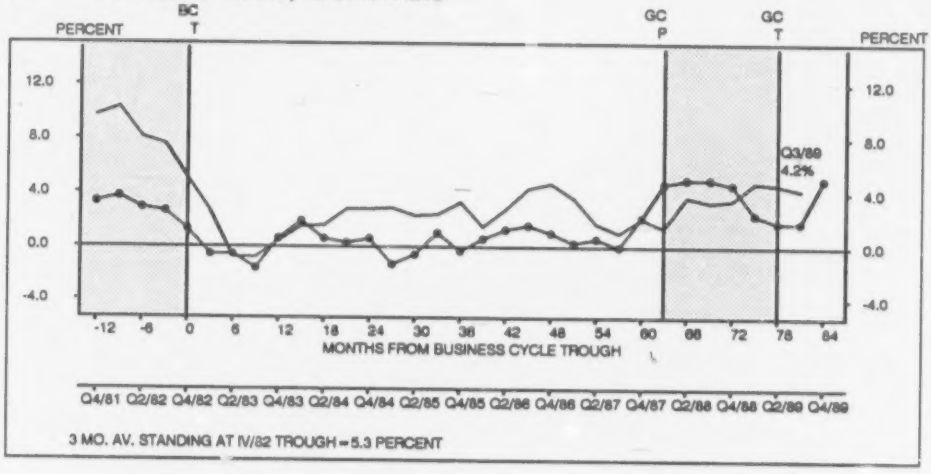
49. Change in Inventory on Hand and on Order



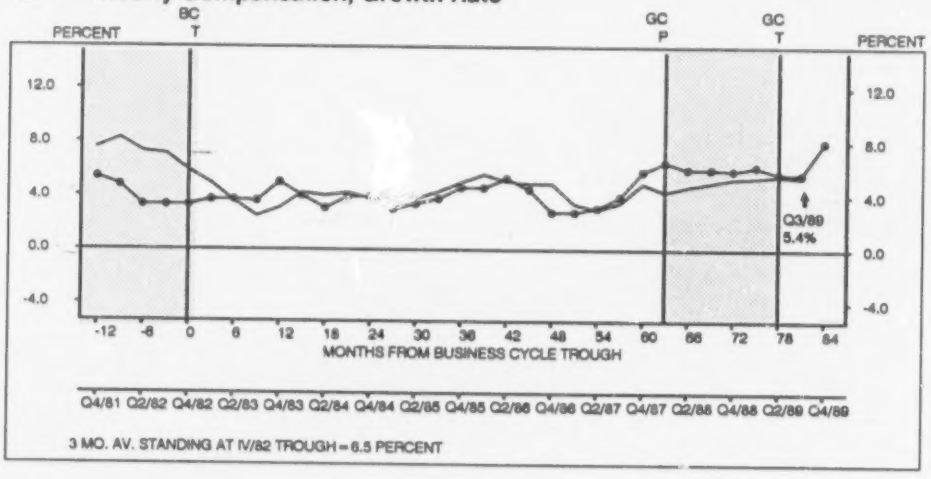
50. Output per Hour, Growth Rate



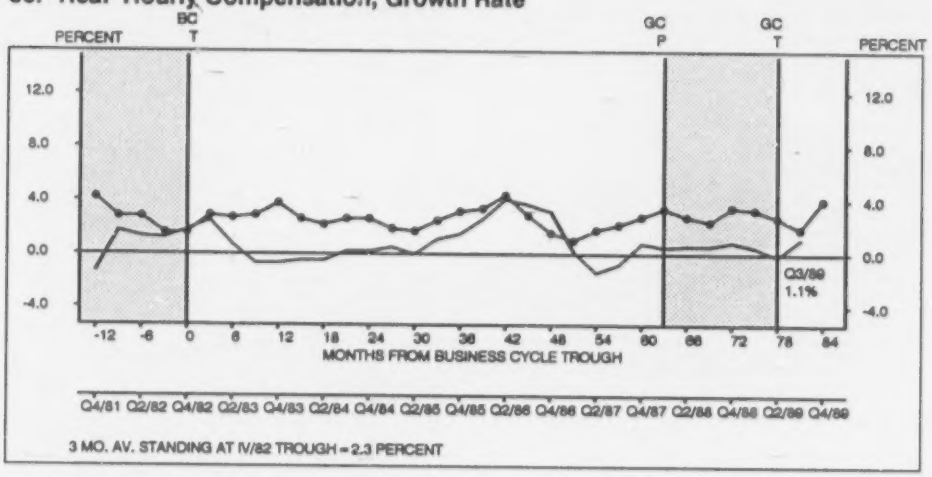
51. Unit Labor Costs, Growth Rate



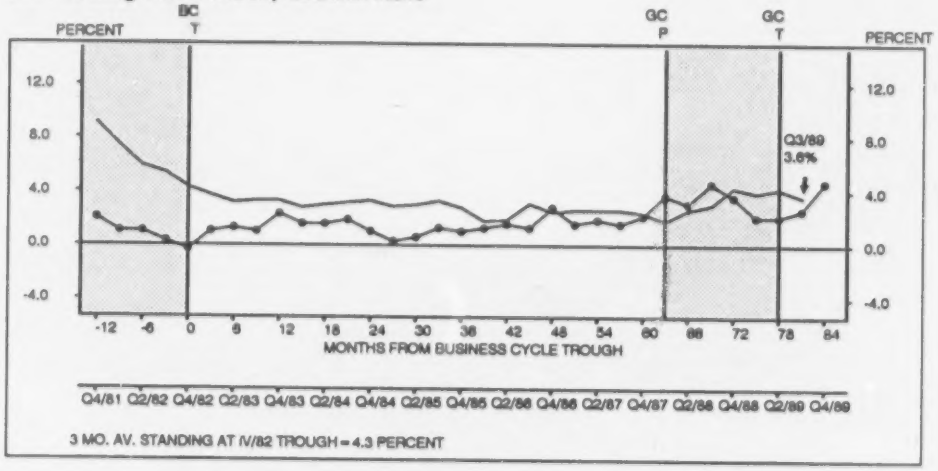
52. Hourly Compensation, Growth Rate



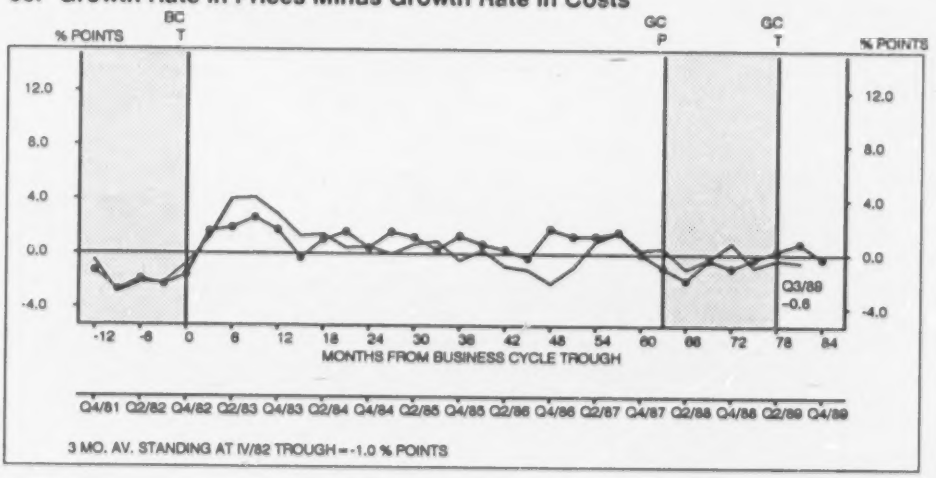
53. Real Hourly Compensation, Growth Rate



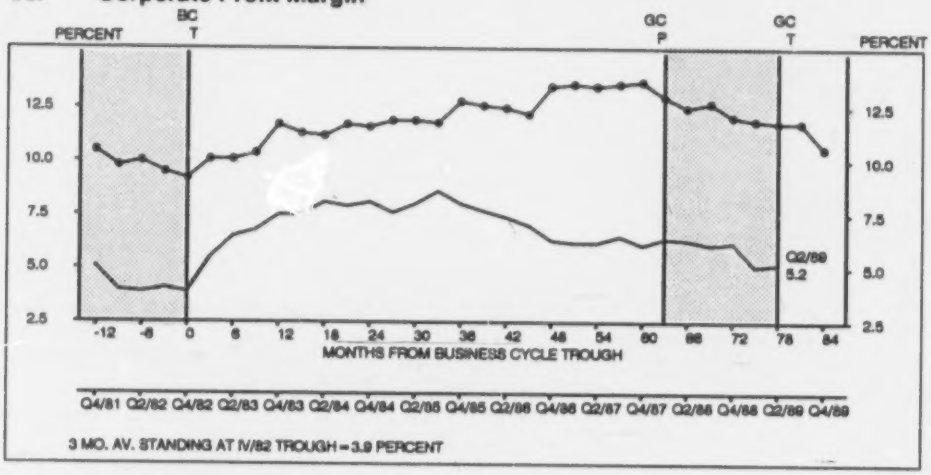
54. Selling Price Index, Growth Rate



55. Growth Rate in Prices Minus Growth Rate in Costs

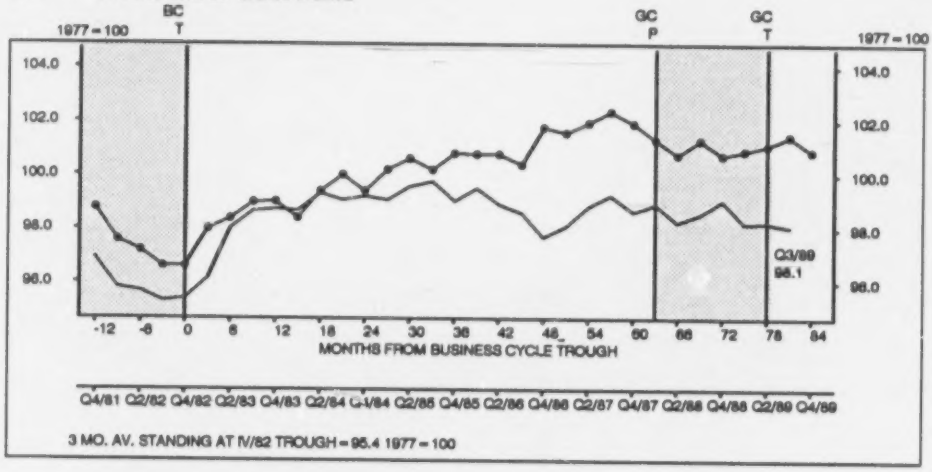


56. Corporate Profit Margin

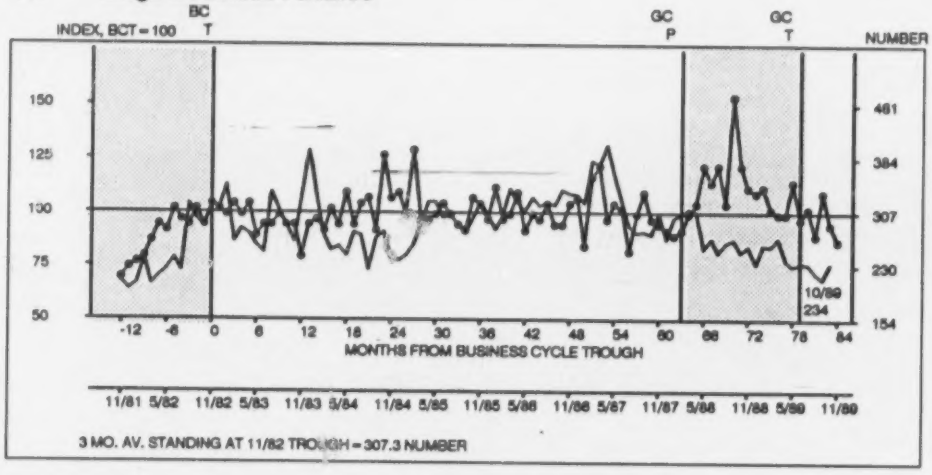


Profitability is down ...

57. Price/Labor Cost Ratio

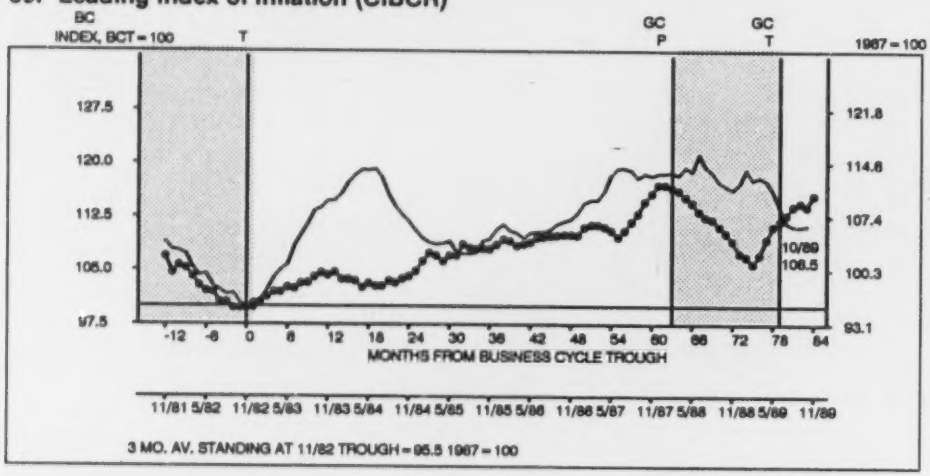


58. Large Business Failures



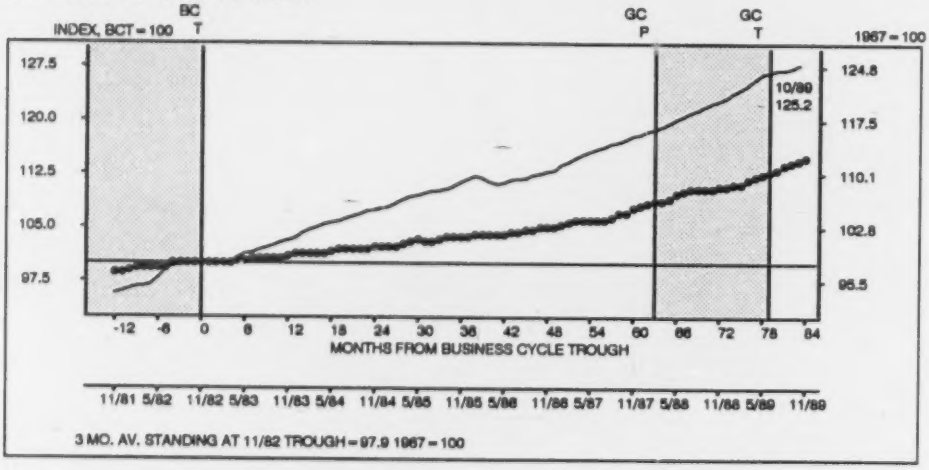
...but so are large business failures.

59. Leading Index of Inflation (CIBCR)

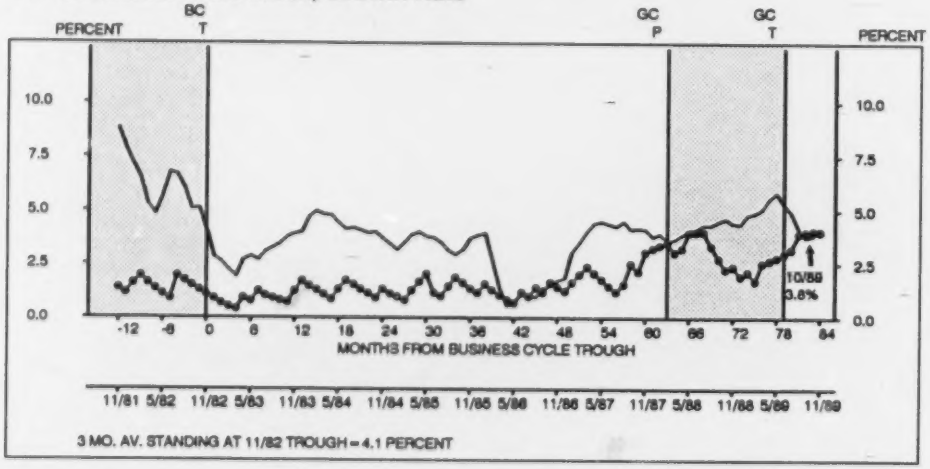


Inflation should continue to cool off.

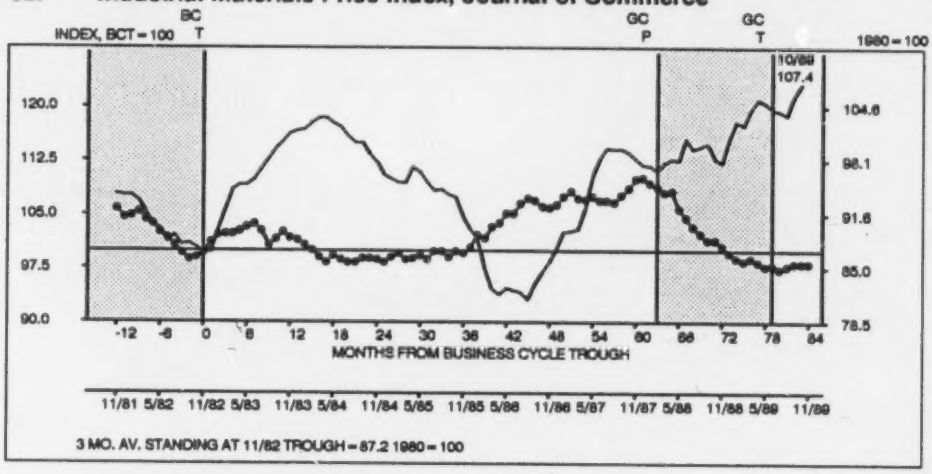
60. Consumer Price Index



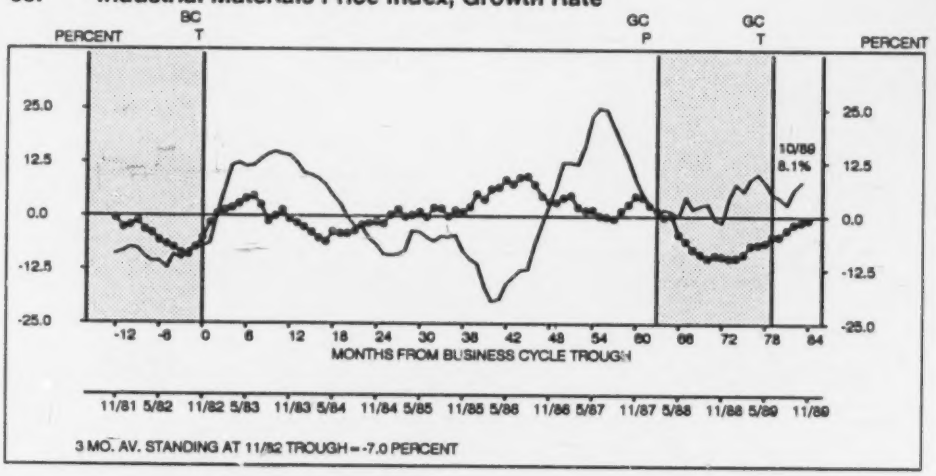
61. Consumer Price Index, Growth Rate



62. Industrial Materials Priee Index, Journal of Commerce

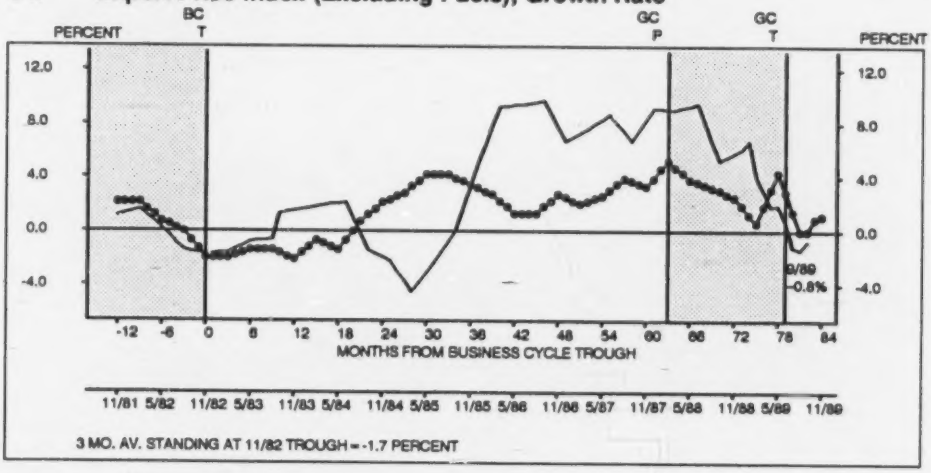


63. Industrial Materials Price Index, Growth Rate

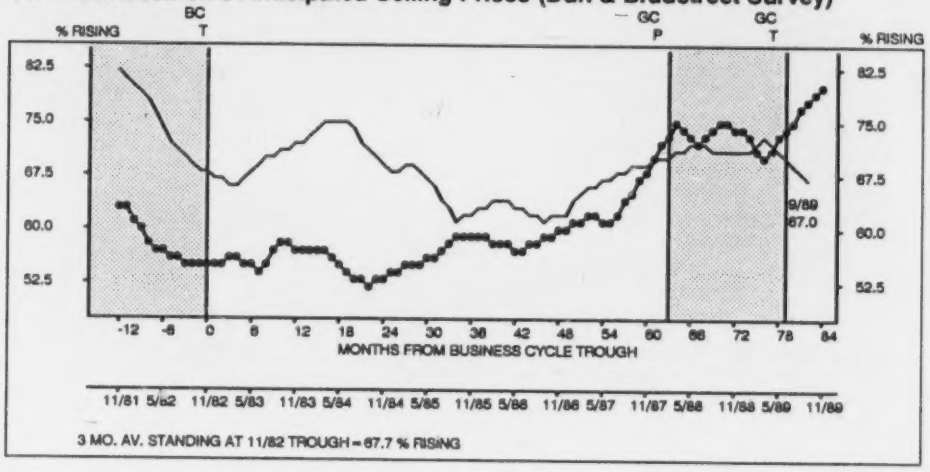


In November (not shown) the J.O.C. Index dropped to 105.6, while its growth rate fell sharply to 3.3%.

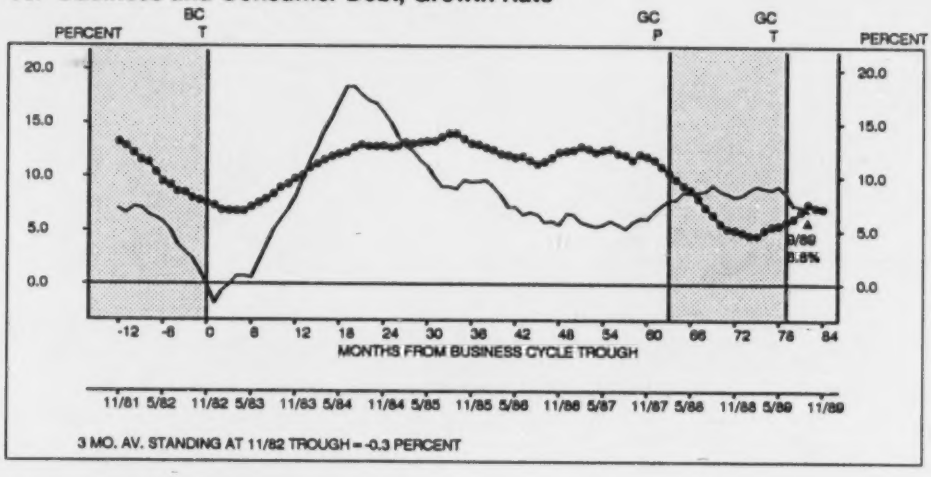
64. Import Price Index (Excluding Fuels), Growth Rate



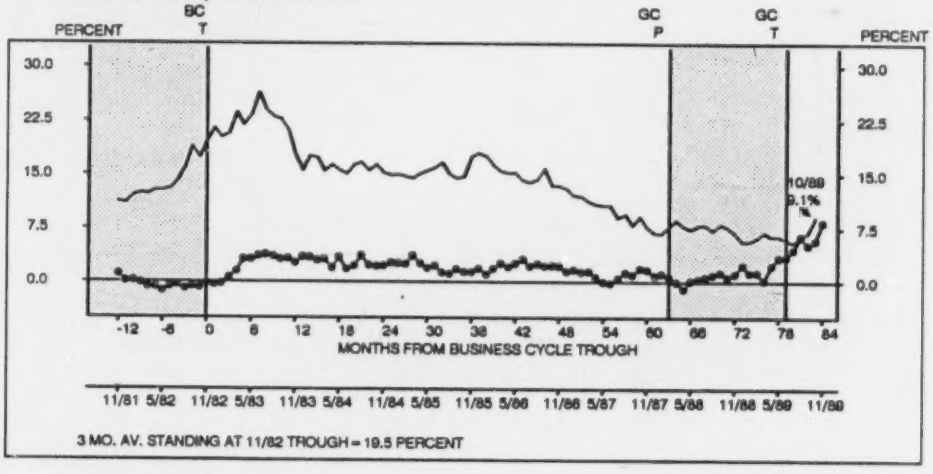
65. Businessmen's Anticipated Selling Prices (Dun & Bradstreet Survey)



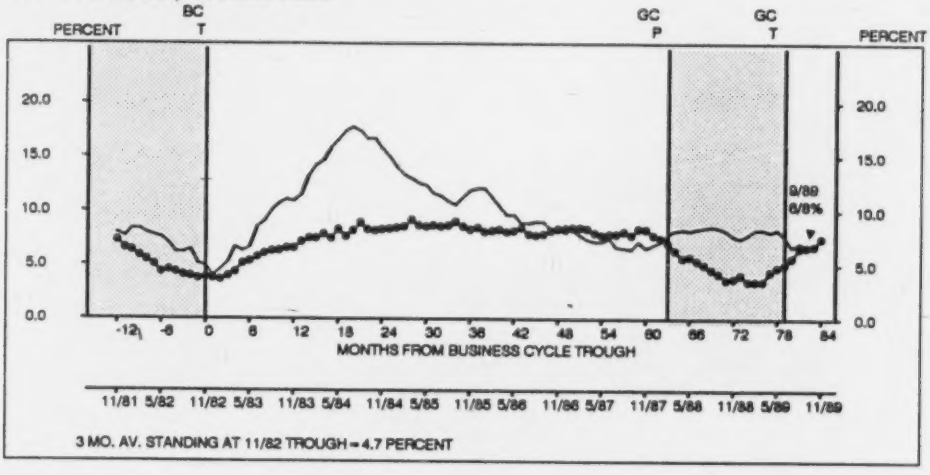
66. Business and Consumer Debt, Growth Rate



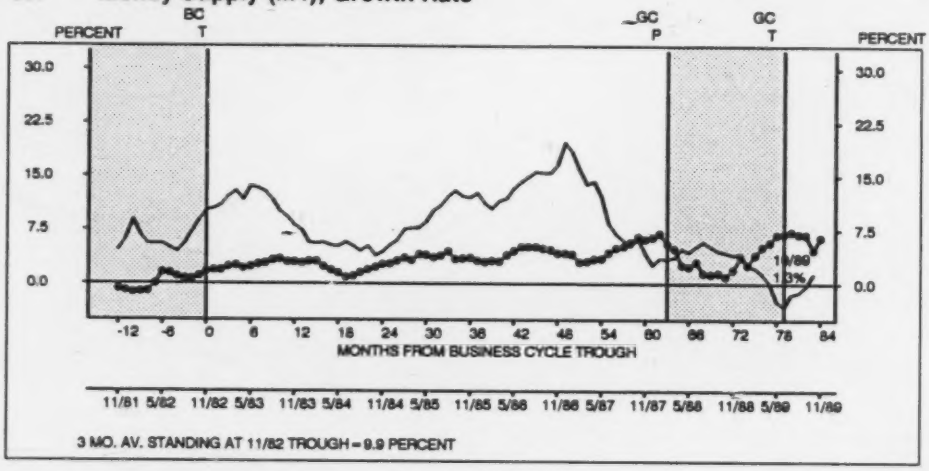
67. Federal Debt, Growth Rate



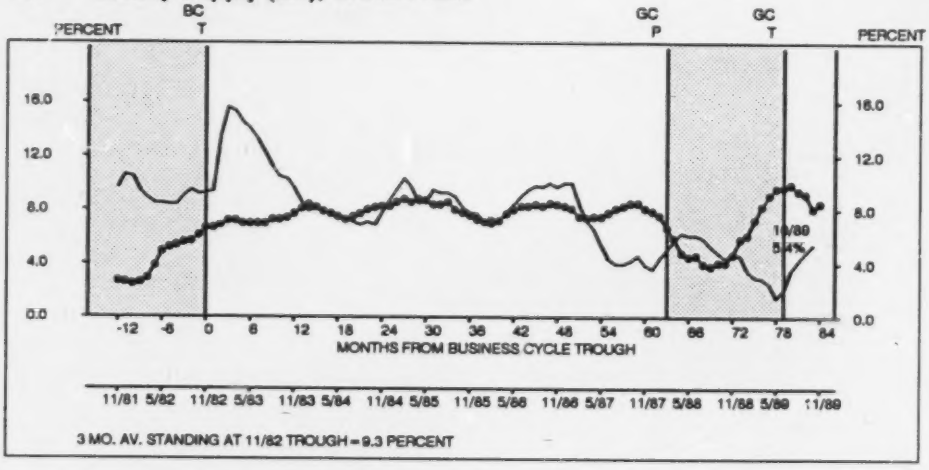
68. Total Debt, Growth Rate



69. Money Supply (M1), Growth Rate

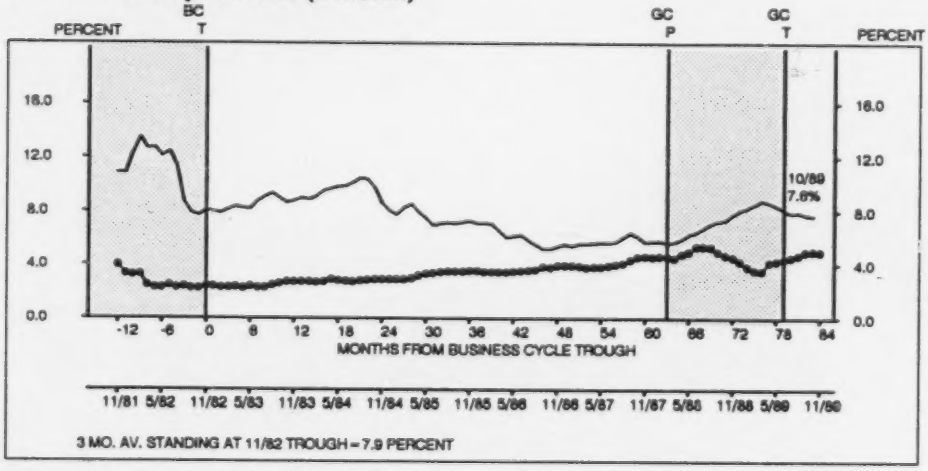


70. Money Supply (M2), Growth Rate



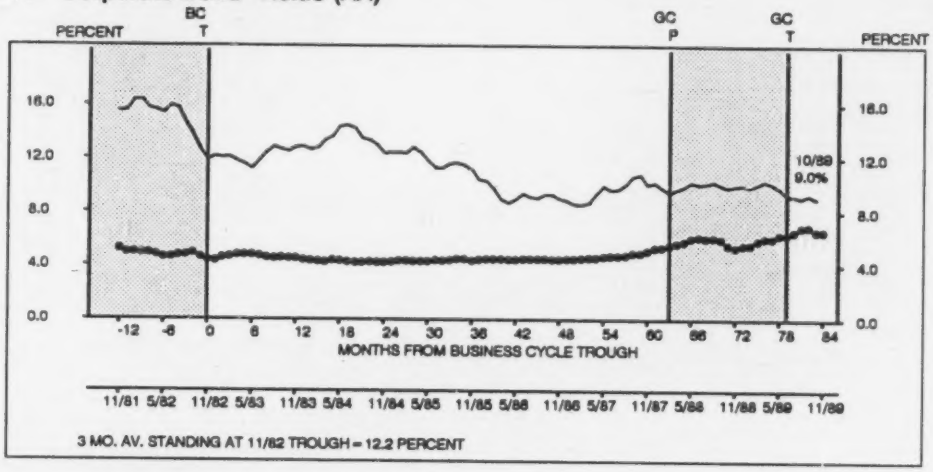
Faster growth in Money Supply should give the economy impetus for further growth ...

71. Treasury Bill Rate (3-Month)

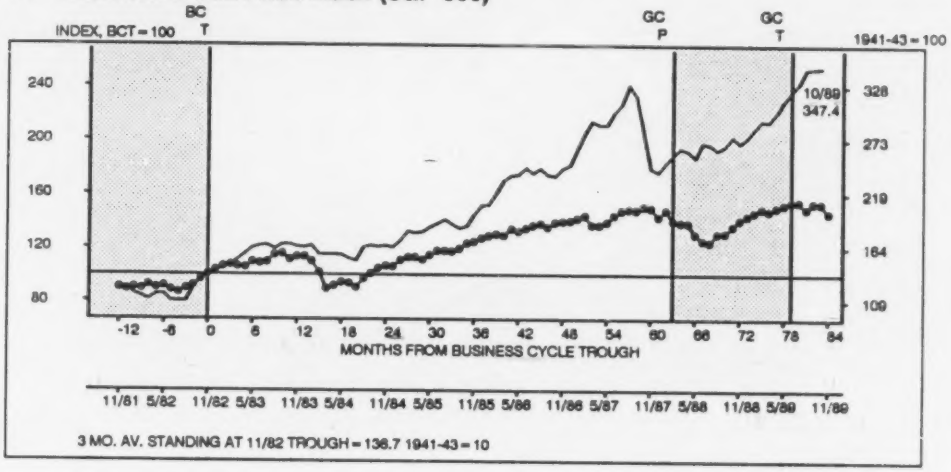


... as should lower interest rates.

72. Corporate Bond Yields (AA)



73. Common Stock Price Index (S&P 500)



RECESSION-RECOVERY WATCH SERIES AND CHARTS

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The series numbers of indicators that are reported in Business Conditions Digest are noted above. Readers may wish to consult the 1984 *Handbook of Cyclical Indicators* for further information on particular time series. The letter symbols L, C, Lg and U identify the timing classification of the series with respect to business cycles, as shown in Business Conditions Digest. L = leading, C = coincident, Lg = lagging, and U = unclassified because of inconsistency in timing. The three letters in parentheses refer to peaks, to troughs, and to peaks and troughs, respectively. When the series we use is similar to but not identical with the BCD series, the BCD classification has been used. In the case of growth rates, we show the classification only where a similar growth rate for the same or similar series is classified in BCD.

ABOUT THE CENTER FOR INTERNATIONAL BUSINESS CYCLE RESEARCH

The Center for International Business Cycle Research (CIBCR), established in 1979, specializes in the study of trends and fluctuations in economic growth and inflation in the United States and other countries. The analysis contained in this report is the result of the Center's ongoing research programs on U.S. business cycles. Readers are invited to submit comments and suggestions concerning this publication. In addition, readers wishing to secure data compiled by the Center on the ten other major industrial countries or copies of research reports may do so by communicating with:

Center for International Business Cycle Research
Uris Hall, Columbia University
New York, NY 10027
Telephone: (212) 280-2916

ABOUT THIS REPORT

Recession-Recovery Watch is a quarterly report designed to analyze current business cycle trends in terms of previous recession or recovery patterns in the United States.

This report was begun in August 1979, under the direction of Dr. Geoffrey H. Moore, following the methodology for measuring recessions developed at the National Bureau of Economic Research. Although no forecasts are made, the materials in this report do permit glimpses into the future: first, by analyzing the behavior of various leading indicators; second, by indicating what is likely to happen in terms of what did happen in previous recessions and recoveries.

The leading indicators used in this report are relevant to future output and employment because they represent actions taken, like the placing of orders, that will result in future output, or because they reflect factors, like profits, that influence future decisions on output. The record of what happens during the latter stages of business cycles is relevant because of the family resemblance among successive cycles, a resemblance that has its origin in the processes by which business cycles are generated. Every business cycle has its own surprises, partly because of policy actions taken, but many developments are not surprising, having occurred many times before. The historical comparisons contained in this report help one anticipate what is typical and distinguish it from the unusual.

Other CIBCR publications include International Economic Indicators, a monthly 80-page compilation of charts and data on leading and coincident indicators for eleven industrial countries. Monthly press releases are issued on a leading index of inflation and a leading employment index for the United States. A bulletin on leading and coincident Service Sector Indicators is also published monthly.

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RECESSION–RECOVERY WATCH...

A Quarterly Report Designed to Assist in the Evaluation of Current Business Conditions

Published by the Center for International Business Cycle Research,
Columbia Business School, Columbia University, New York, NY 10027

Dr. Geoffrey H. Moore
Director

Vol.12, No. 1
February 1990

Summary

The CIBCR's leading employment index has begun to signal a recession ahead, by forecasting an increase of half a percentage point in the in the unemployment rate in the first half of 1990. Other leading indexes with a similar horizon are also showing weakness. The long-leading index, however, has begun to move up rapidly, indicating a better outlook later this year.

Despite the sharp uptick in inflation in January, the leading inflation index suggests that the inflation rate will shortly settle down close to its previous level, namely 4%.

A New Signal of Recession

Although the record-breaking business cycle expansion that began in November 1982 has continued at least through December 1989, the CIBCR's leading employment index has signaled that it may turn into a recession. The growth rate in this index fell to

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0.4% in December and January, and 0.2% in February. Using a forecasting method we developed in 1985, any growth rate in this index below 0.7% forecasts an increase of at least 0.5% in the average unemployment rate for the next six months. Increases of this size have occurred toward the beginning of every recession since 1948. The forecasts have never missed any of the eight recessions and have rarely produced false signals. Chart A shows how the forecasts have tracked the actual changes in unemployment since 1973. If the latest forecast proves correct, the average unemployment rate during the six months ending next August will be 5.8%, up from the 5.2% average for the six months ending last November.

Another way of looking at the record is to see how well the leading employment index has distinguished slowdowns from recessions. Chart B compares its growth rate during slowdowns that did not become recessions with slowdowns that did. Here we see that the average pattern during the slowdowns that did not become recessions did not fall below the zero growth line, whereas the average for the slowdowns that turned into recessions fell well below zero. During the current slowdown, which began in February 1989, the growth rate in the leading employment index has not quite reached the zero line, but is very close to it. During the next few months it will be important to see whether the growth rate will continue to fall, or reverse itself.

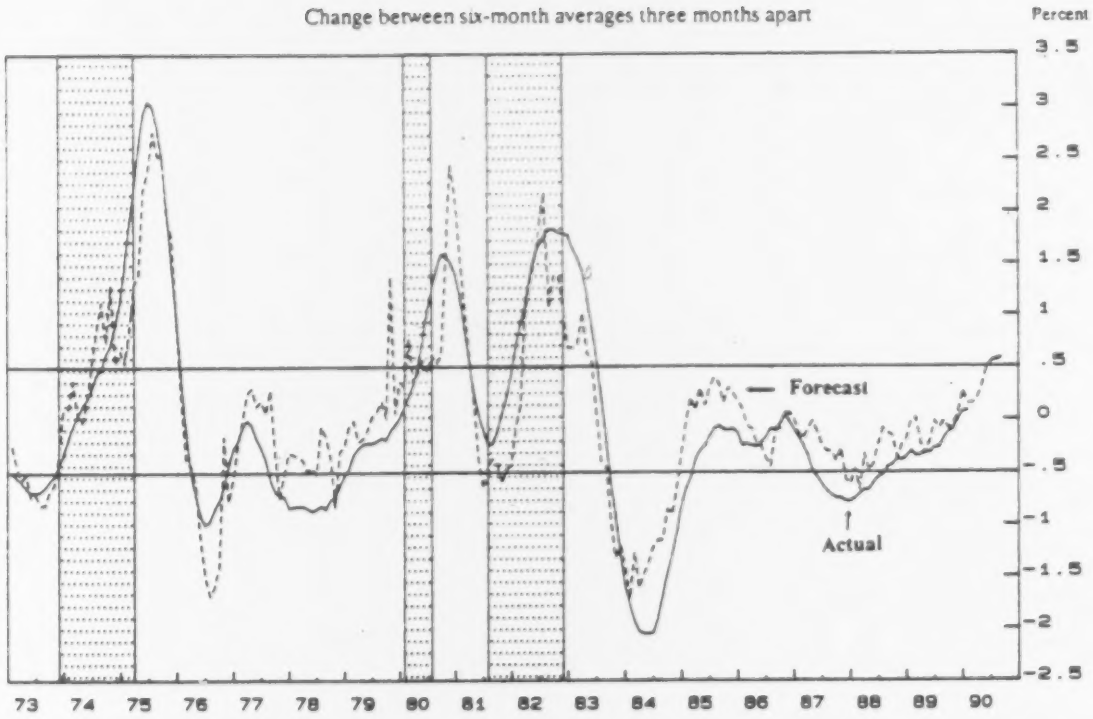
One of the leading indexes that is pointing to such a reversal is the long-leading index, which has recently been exhibiting a sharply accelerating growth rate (Chart C). The January figure (8.2% at annual rate) was significantly affected by the surge in housing permits resulting from the imminent legal requirement to provide facilities for the handicapped in multifamily dwellings. Yet even before this the long-leading index had been registering growth rates above 5% in November and December. On the other hand, the short-leading index (Chart D) has been showing some weakness, and so have most of the other leading indexes covered in this report. Hence it seems likely that the slowdown in the growth of real GNP, which reached 2.1% in the fourth quarter according to our smoothed growth rate (Chart E), will continue and possibly worsen in the first half of 1990. But the outlook for the second half, according to the long-leading index, is brighter.

Will the Downward Trend in Inflation Resume?

The inflation rate as measured by the consumer price index bounced up sharply in January, when the CPI six-month smoothed growth rate rose to 5.6% from 4.1% in December. This was clearly foreshadowed by the CIBCR's daily inflation index, which began climbing late in December and continued to climb all through January (Chart F). The leading index of inflation also moved up a bit in January, but fell back in February, continuing its downward trend, which has been underway since September 1988 (Chart G). Hence the inflation rate is likely to move down from its superheated January level, especially if the economic slowdown persists or deepens (Chart H).

Charts G and H raise an interesting question about inflation. During slowdowns that did not become recessions the inflation rate declined more rapidly than during slow-

CHART A.
FORECAST CHANGE IN UNEMPLOYMENT RATE BASED ON CIBCR'S LEADING EMPLOYMENT INDEX

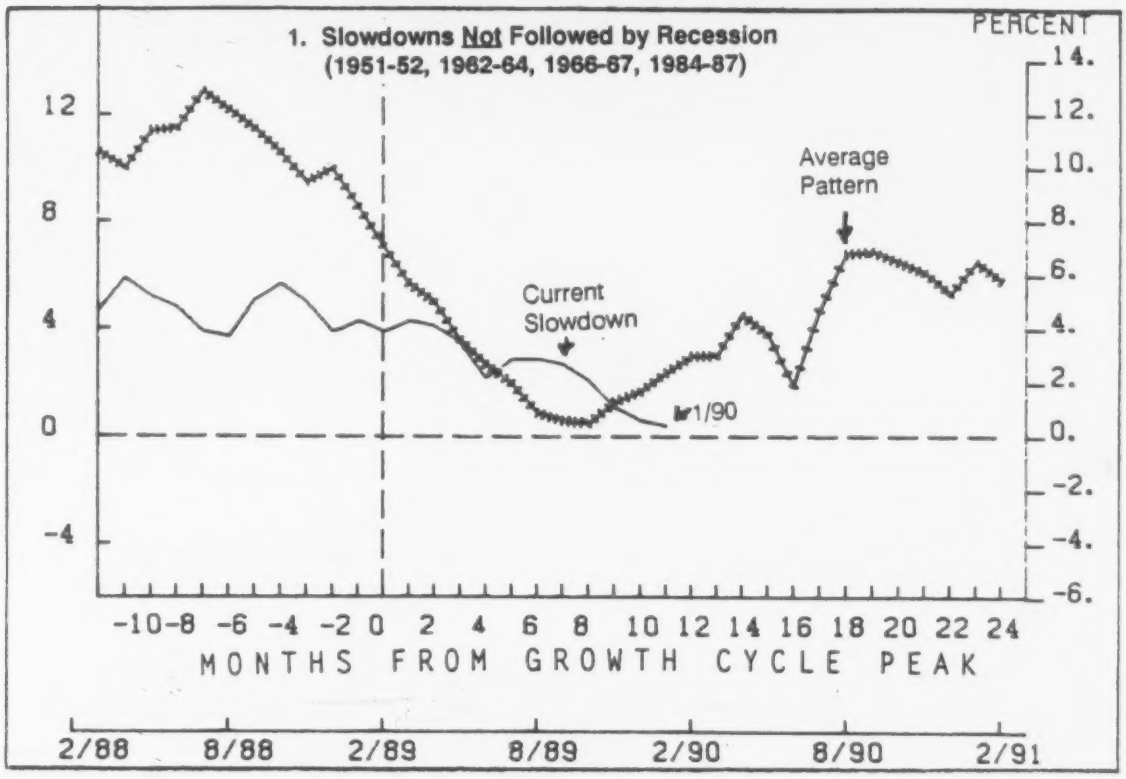


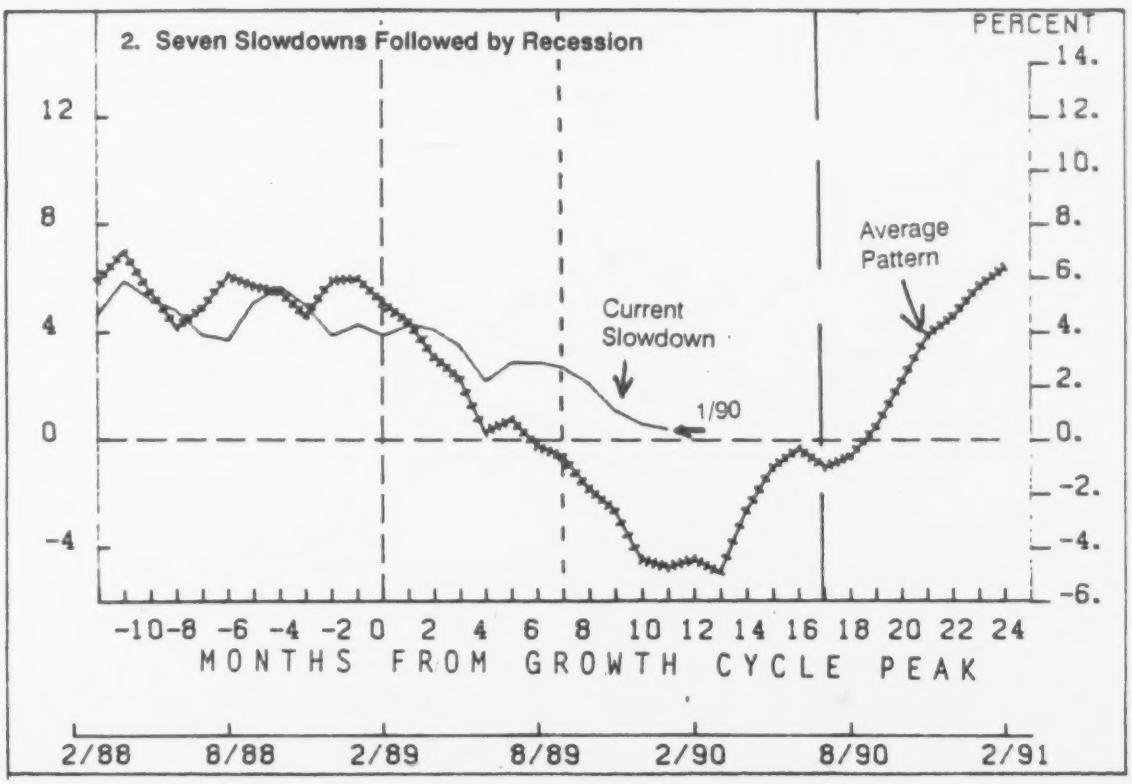
Shaded areas represent business cycle recessions.

Based on regression, 1949-85, using growth rate in Leading Employment Index. Latest forecast is for six-months ending August 1990.

Center for International Business Cycle Research, March 1990.

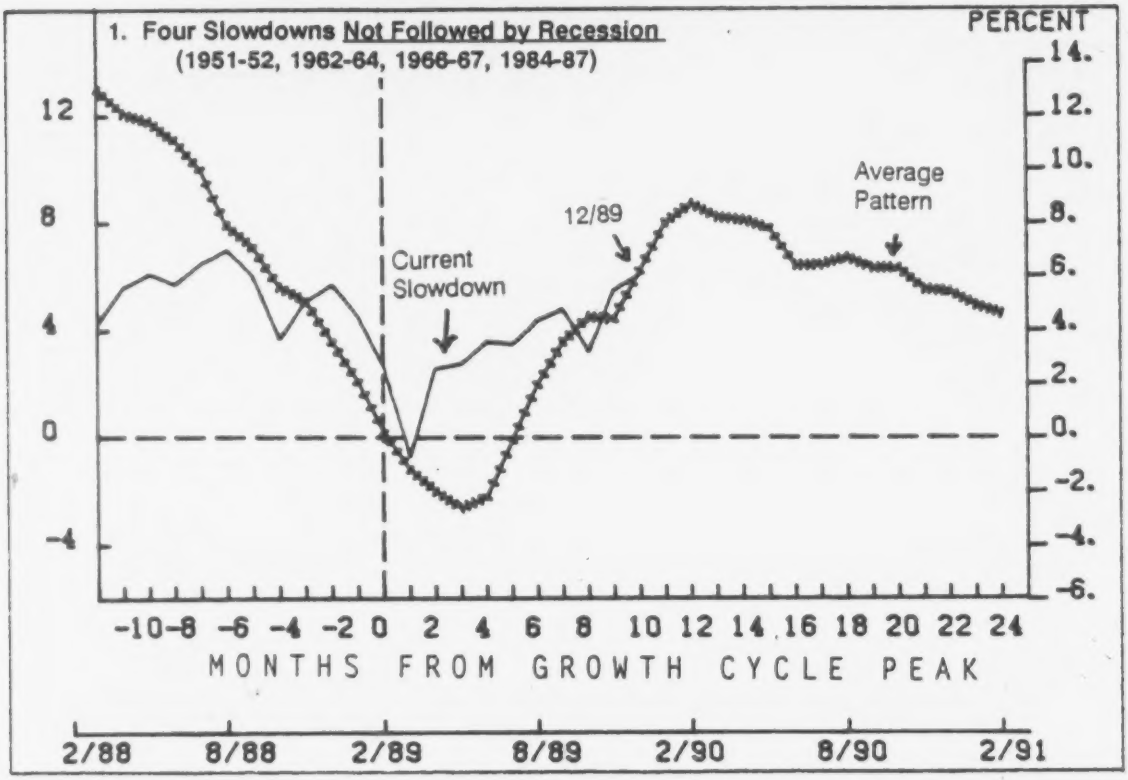
CHART B. LEADING EMPLOYMENT INDEX GROWTH RATES BEFORE AND AFTER GROWTH CYCLE PEAKS

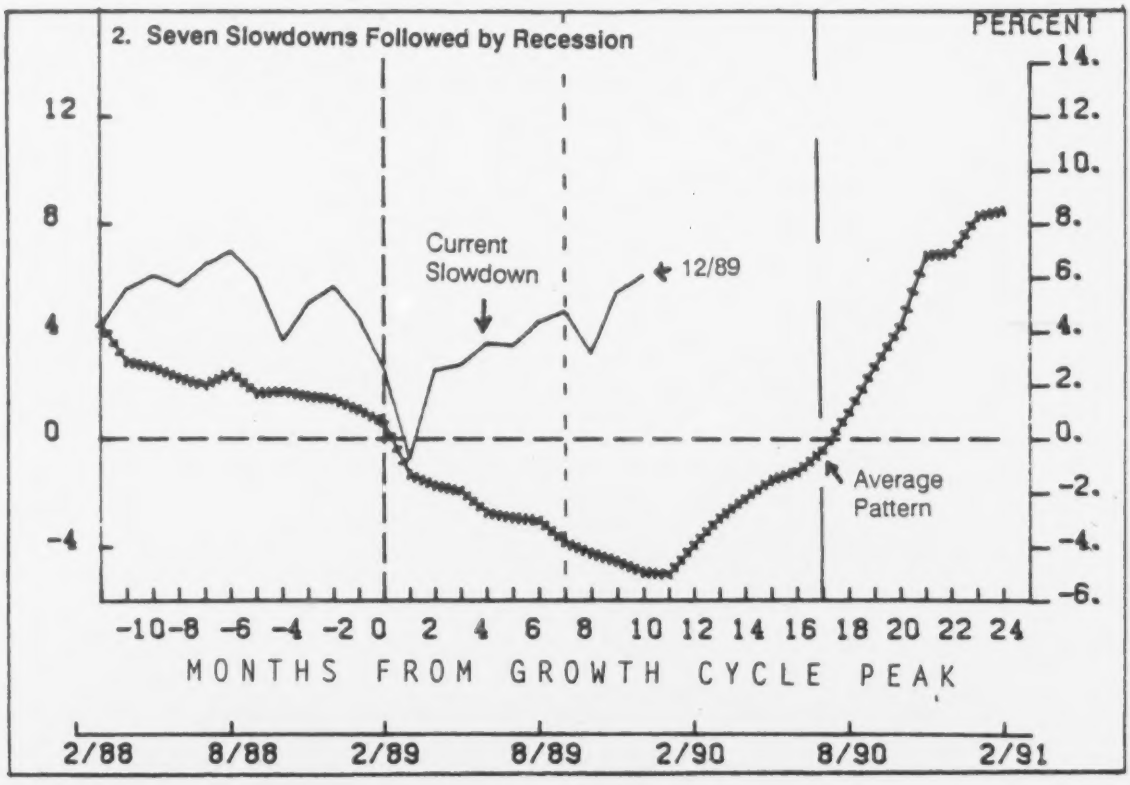




Interval from month 7 to 17 represents the average of several recessions, 1948-81.

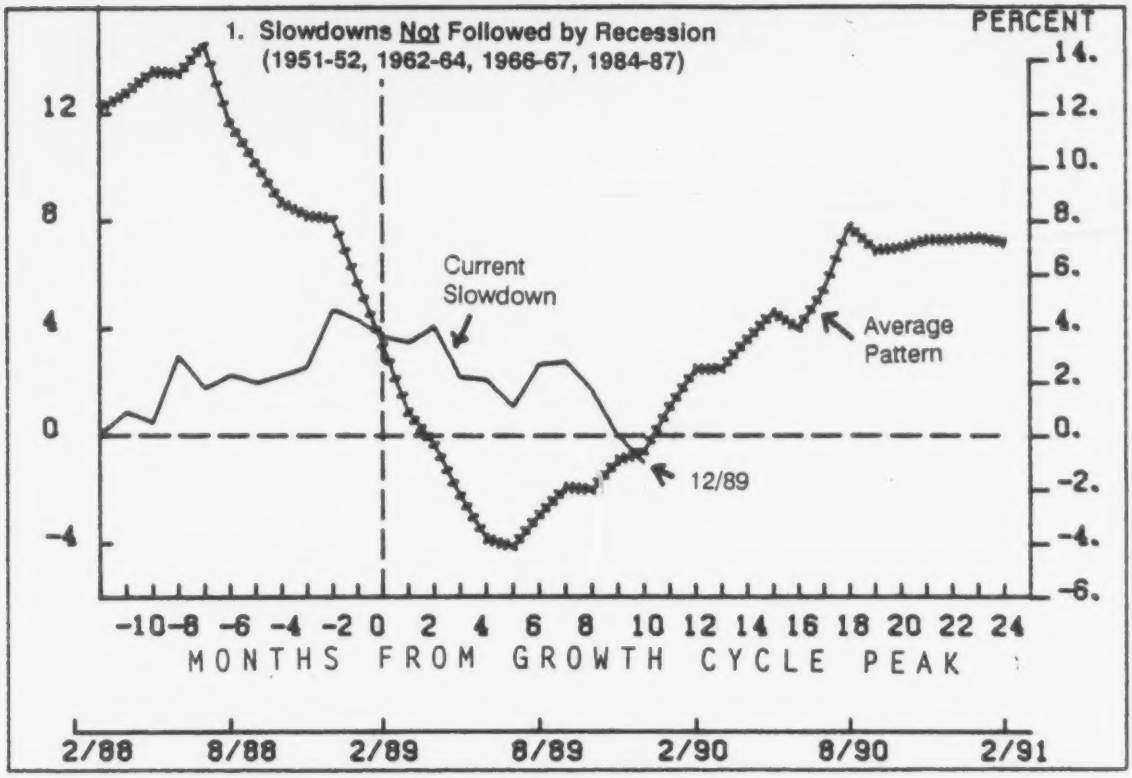
CHART C. LONG-LEADING INDEX GROWTH RATES BEFORE AND AFTER GROWTH CYCLE PEAKS

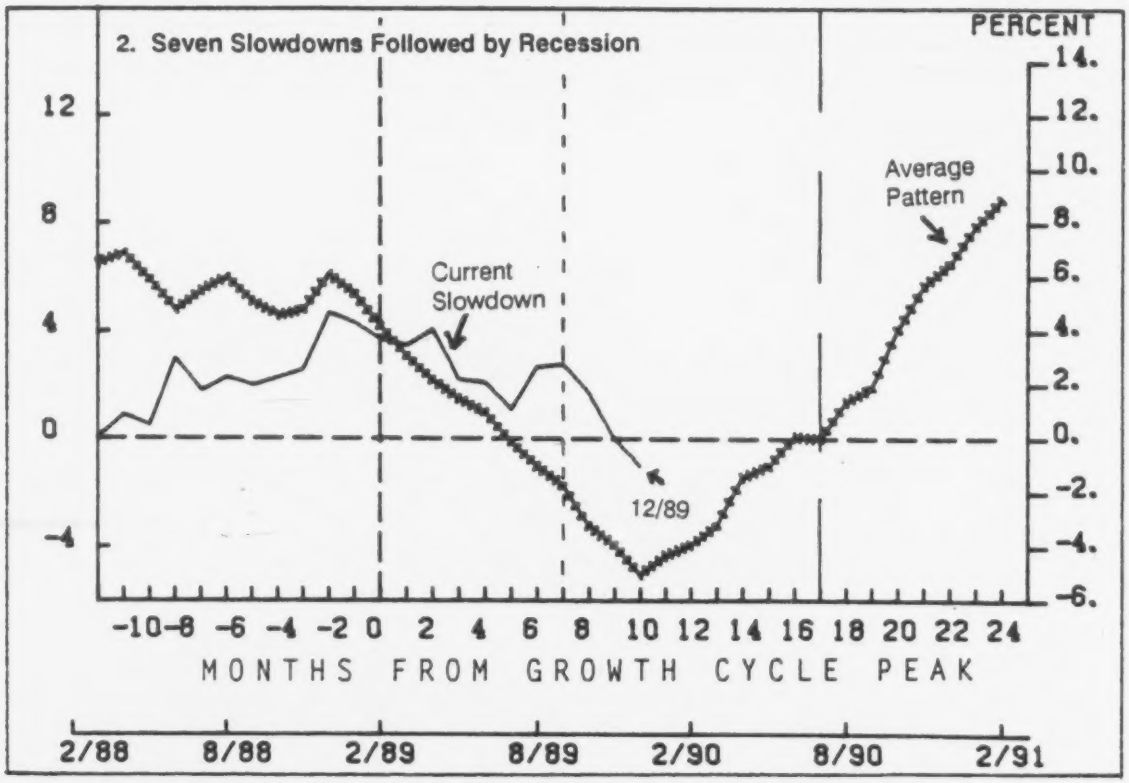




Interval from month 7 to 17 represents the average of several recessions, 1948-81.

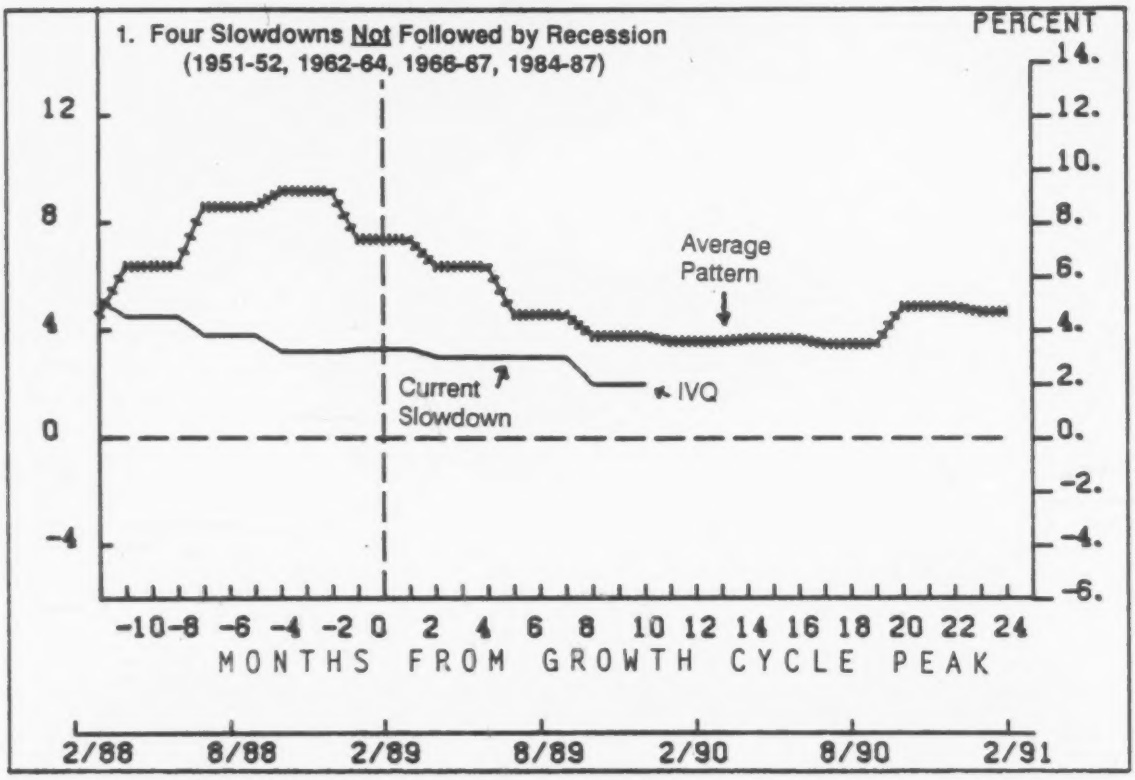
CHART D. SHORT-LEADING INDEX GROWTH RATES BEFORE AND AFTER GROWTH CYCLE PEAKS

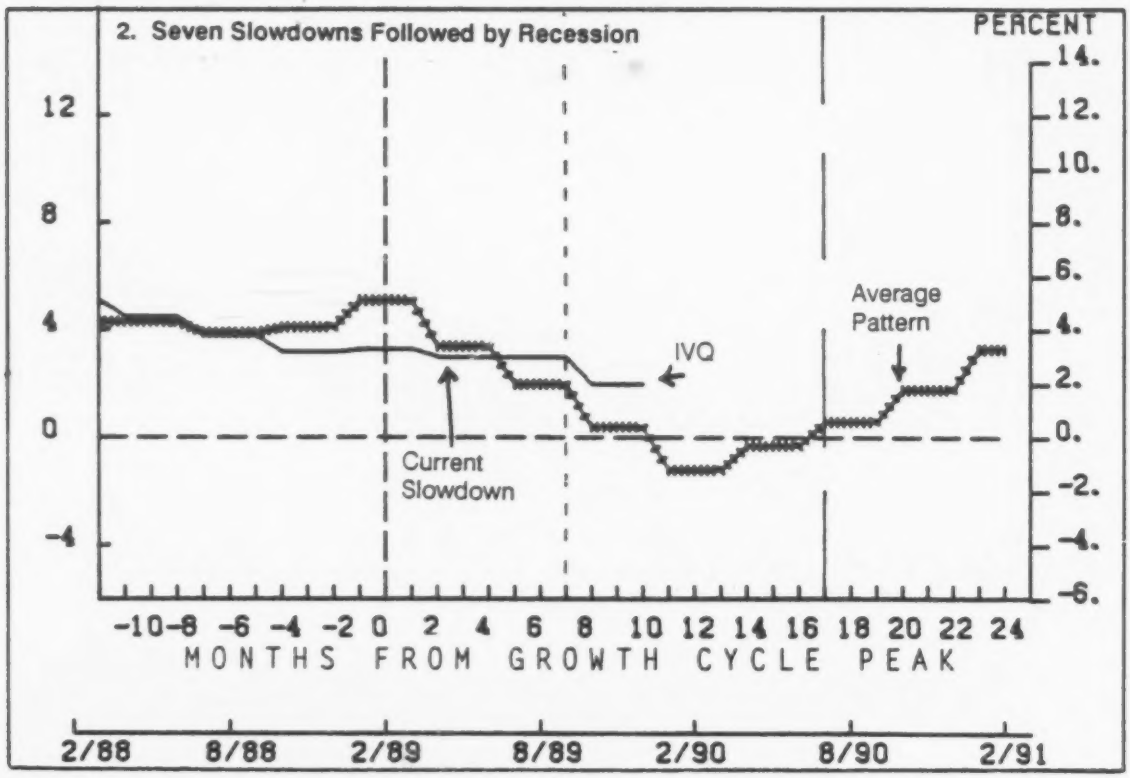

1. Slowdowns Not Followed by Recession
(1951-52, 1962-64, 1966-67, 1984-87)
PERCENT
Current Slowdown
Average Pattern
12/89
-10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18 20 22 24
MONTHS FROM GROWTH CYCLE PEAK
2/88 8/88 2/89 8/89 2/90 8/90 2/91


2. Seven Slowdowns Followed by Recession
PERCENT
Average Pattern
Current Slowdown
12/89
-10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18 20 22 24
MONTHS FROM GROWTH CYCLE PEAK
2/88 8/88 2/89 8/89 2/90 8/90 2/91

Interval from month 7 to 17 represents the average of several recessions, 1948-81.

CHART E. REAL GNP GROWTH RATES BEFORE AND AFTER GROWTH CYCLE PEAKS





Interval from month 7 to 17 represents the average of several recessions, 1948-81.

CHART F.
DAILY INFLATION INDEX

Annual Rate, 4.3%
March 8, 1990

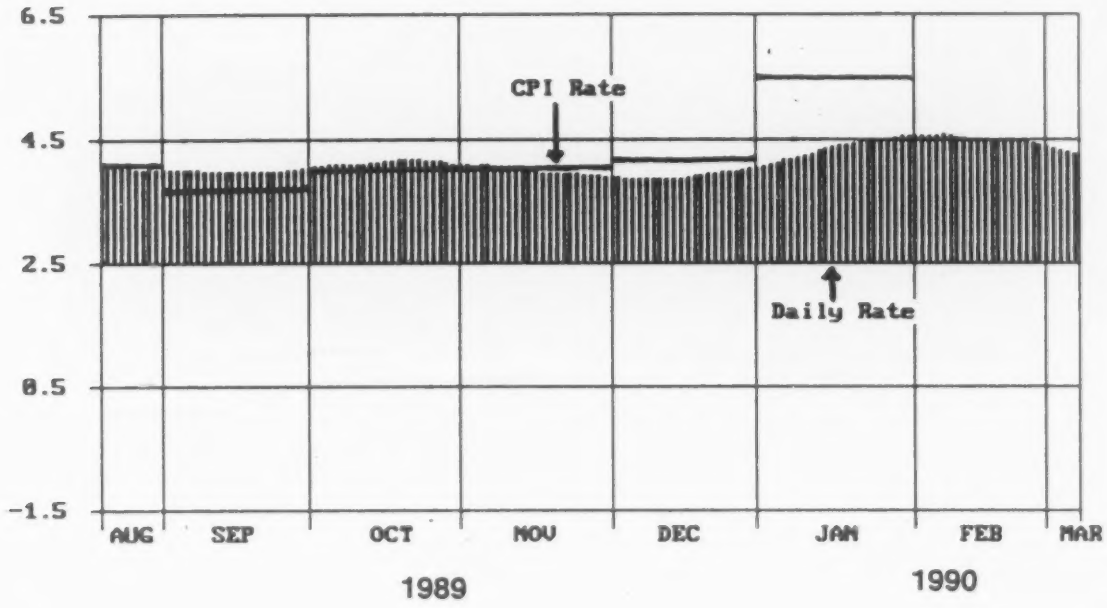
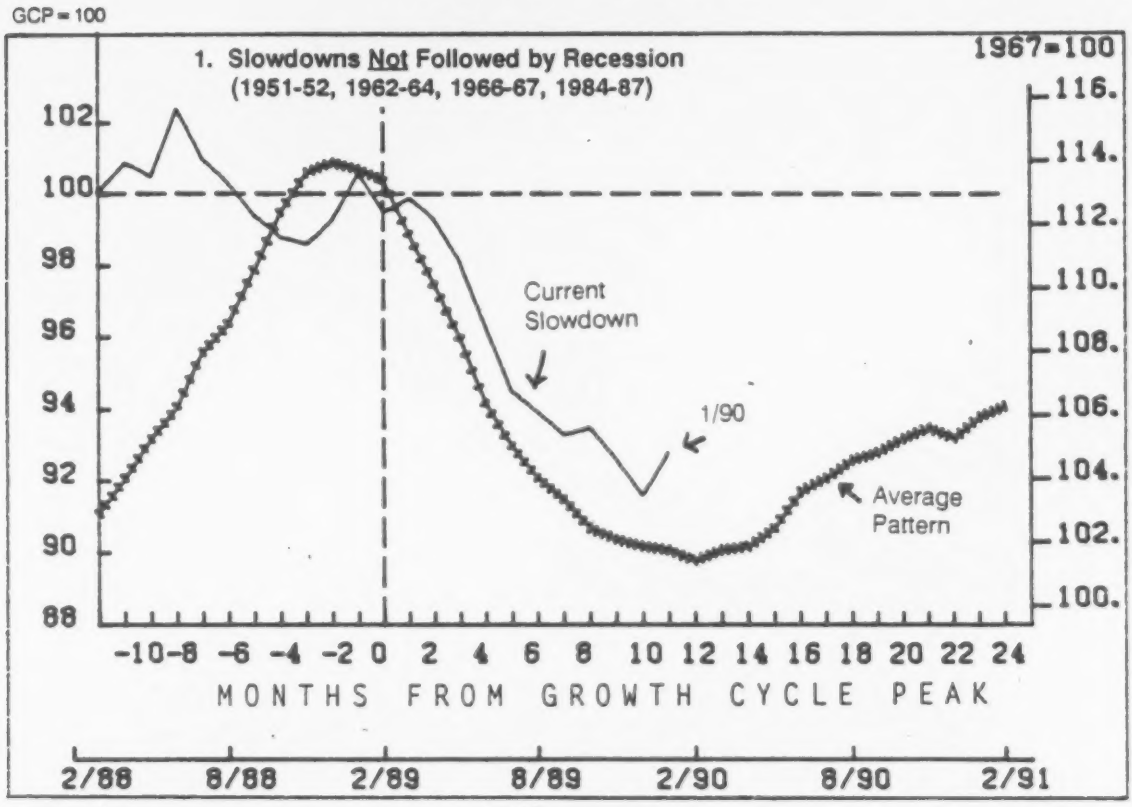
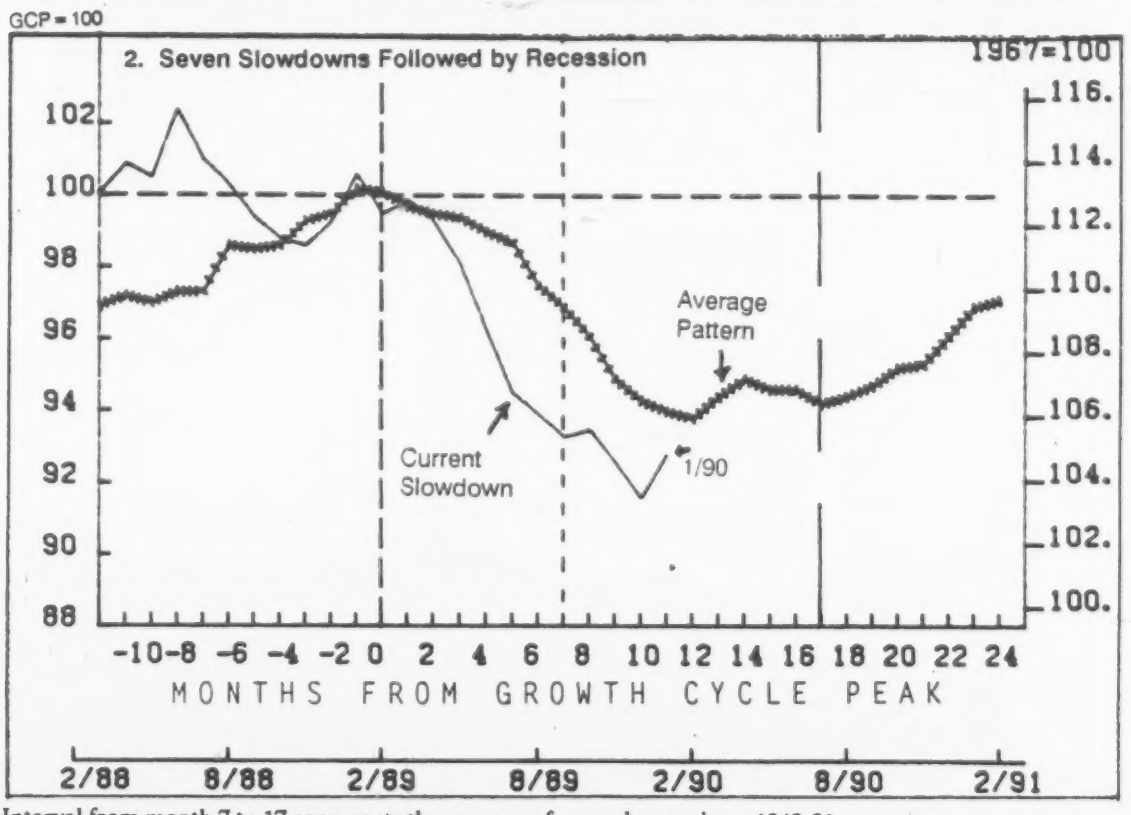


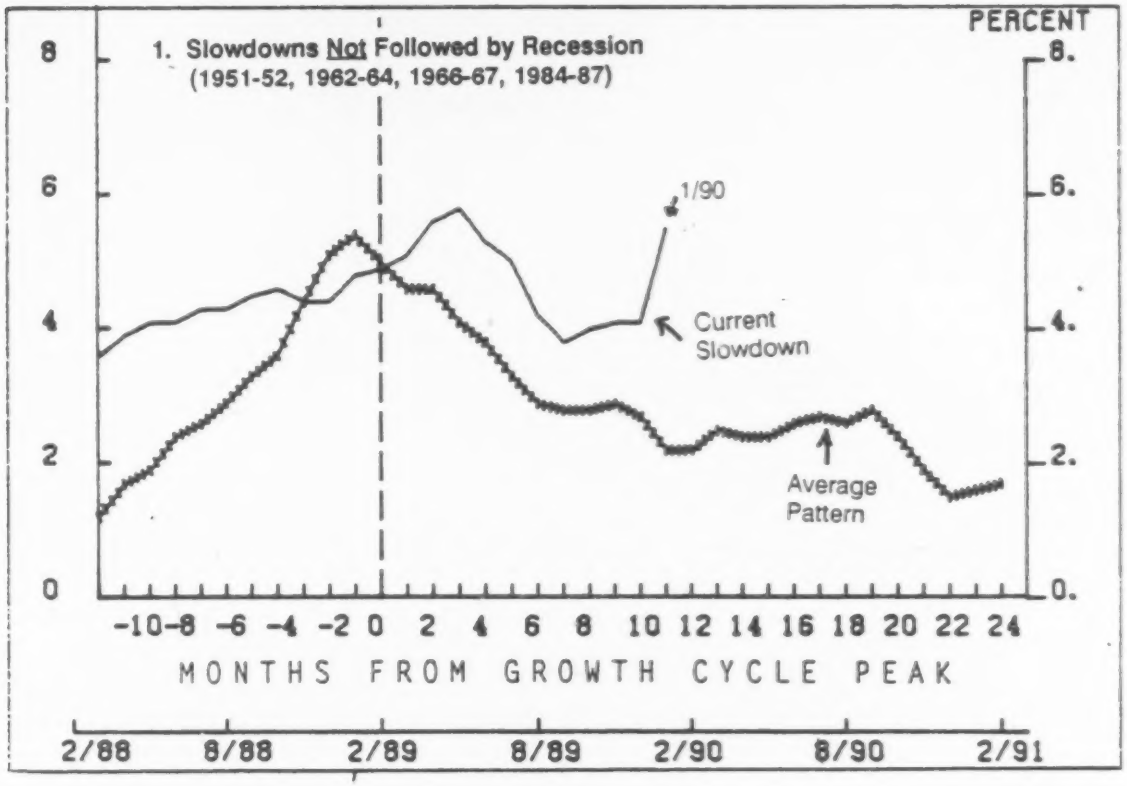
CHART G. LEADING INFLATION INDEX BEFORE AND AFTER GROWTH CYCLE PEAKS

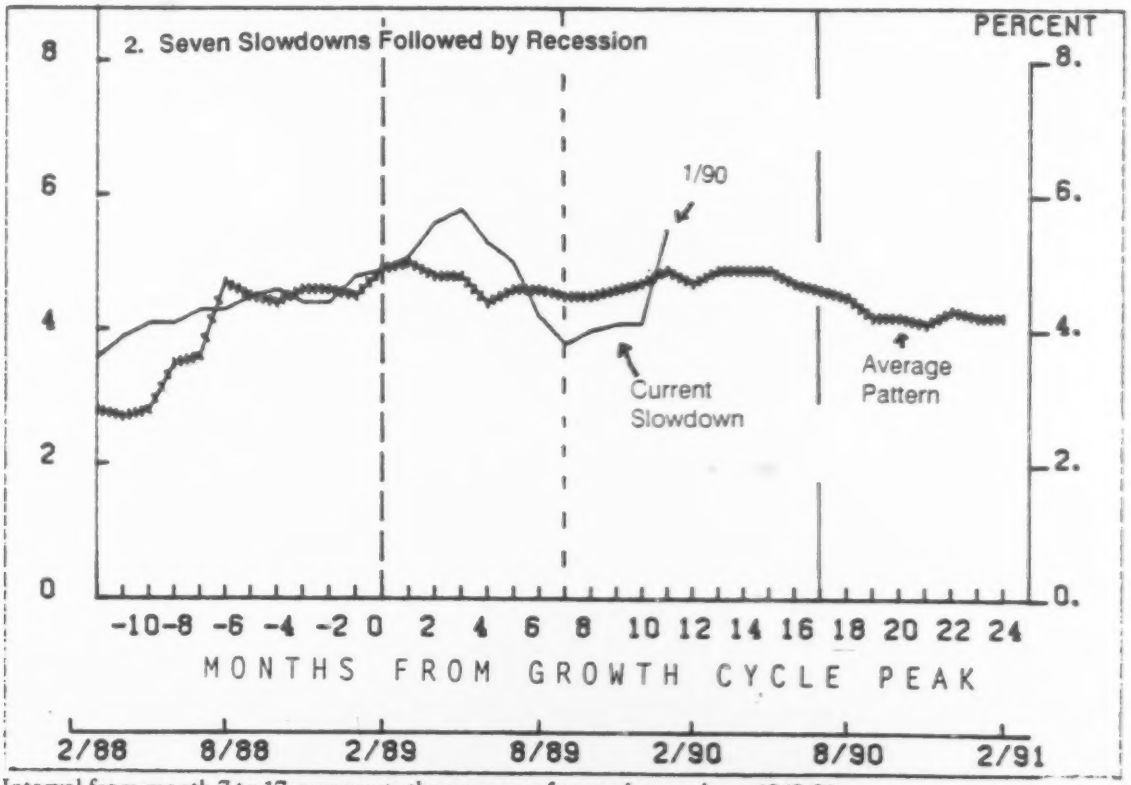




Interval from month 7 to 17 represents the average of several recessions, 1948-81.

CHART H. CONSUMER PRICE INDEX GROWTH RATES BEFORE AND AFTER GROWTH CYCLE PEAKS





Interval from month 7 to 17 represents the average of several recessions, 1948-81.

downs that did become recessions. This is true also of the leading index of inflation. Why should slowdowns have had a bigger effect on inflation than recessions?

Part of the answer may be that although inflation does respond to both economic slowdowns and recessions, there is considerable irregularity in the timing of these reactions. Moreover, recessions do not all occur at the same time after a slowdown begins. The average patterns displayed in the charts are affected by these variations. Table A throws some light on this by showing the changes in inflation during the first ten months of each of the slowdown/recession periods. It also reveals something else, namely, that inflation has become less affected by slowdown or recession in recent times than in the 1940's and 50's. Zero inflation is now a harder target to hit. Nevertheless, even in recent years slowdowns without recessions have been quite effective in reducing inflation. Policy-makers please note!

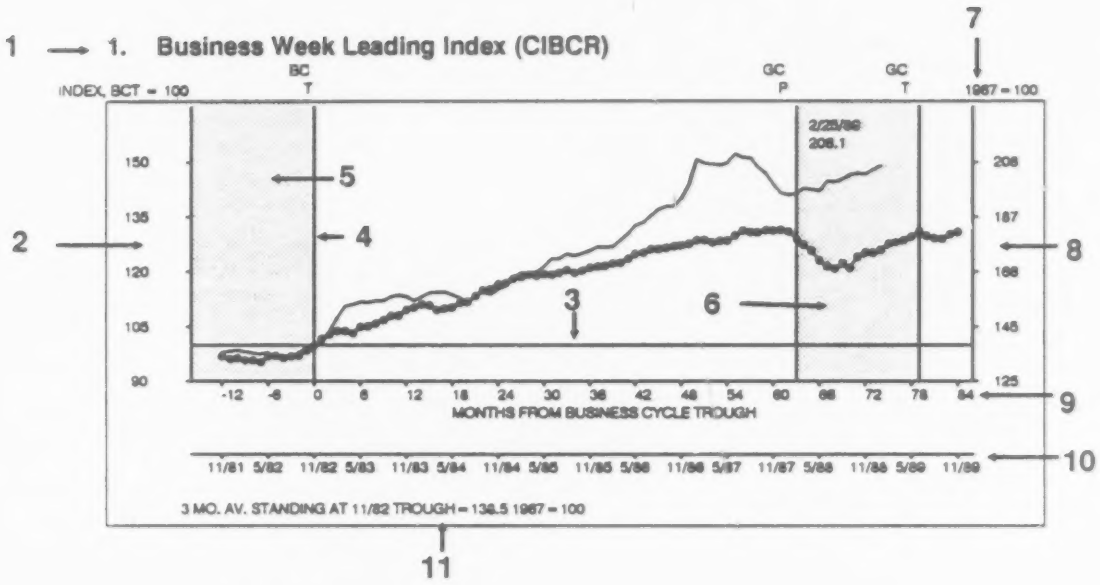
TABLE A.
CHANGES IN INFLATION RATE DURING GROWTH CYCLE SLOWDOWNS

Growth Cycle Peak Date (P) (1)	CPI Inflation Rate at P (2)	CPI Inflation Rate at P+10 (3)	Change in CPI Inflation Rate, from P to P+10 (4)
1. Slowdowns not followed by Recessions			
March 1951	11.3	3.8	-7.5
May 1962	1.3	1.1	-0.2
June 1966	3.3	2.1	-1.2
June 1984	4.2	4.0	-0.2
Average	5.0	2.8	-2.2
2. Slowdowns followed by Recessions			
July 1948	8.0	-1.7	-9.7
March 1953	0.2	0.9	0.7
February 1957	3.7	3.0	-0.7
February 1960	1.4	1.5	0.1
March 1969	5.4	6.2	0.8
March 1973	5.7	10.1	4.4
December 1978	9.3	12.8	3.5
Average	4.8	4.7	-0.1
3. Current Slowdown			
February 1989	4.9	4.1	-0.8

Note: Inflation rate is the six-month smoothed growth rate in the consumer price index, expressed at annual rate. Entries in column 2 are three-month averages centered on the peak date.

Center for International Business Cycle Research, March 1990

HOW TO READ ACTUAL LEVEL CHARTS



1 CHART NUMBER AND TITLE: If the title does not say "growth rate," then the chart is for the actual level rather than for the growth rate.

2 LEFT-HAND SCALE measures movements in both current and past expansion, as a percentage of business cycle trough standings. This is the common vertical scale along which the expansions are compared.

3 HORIZONTAL LINE shows levels at reference trough (100) for current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansion, which are all aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT) represents the 1966-67 growth recession.

7 UNITS for right-hand scale refer only to the current expansion.

8 RIGHT-HAND SCALE refers only to the current expansion. It is a transformation of the left-hand scale to show the current expansion in original units rather than with trough standing at 100.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both the current and past expansions. This is the common time scale along which the expansions are compared.

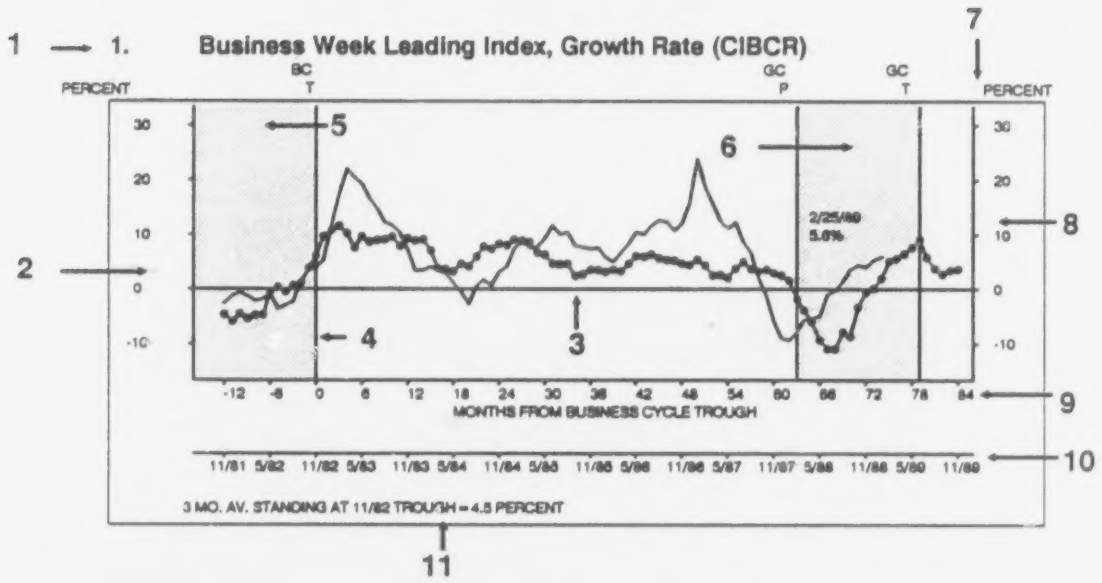
10 ACTUAL DATES refer only to the current expansion.

11 STANDING AT THE TROUGH is the level at which the current expansion began, and is calculated as the 3-month average centered on the trough month.

oooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

———————— SOLID LINE indicates the current expansion, which began in November 1982, or Q4, 1982.

HOW TO READ GROWTH RATE CHARTS



1 CHART NUMBER AND TITLE: If the title says "growth rate," then the chart is for the 6-month smoothed growth rate, rather than the actual level. These growth rates are obtained by dividing the current month's figure by the average for the 12 preceding months, and expressing the result as a compound annual rate.

2 LEFT-HAND SCALE (same as the right-hand scale) shows growth rates in percent for both current and past expansions.

3 HORIZONTAL LINE is drawn at 0% growth rate, a natural reference level for both current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansions, which are aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the trough of the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT), represents the 1966-67 growth recession.

7 UNITS for both scales in percent refer to growth rates for both current and past expansions.

8 RIGHT-HAND SCALE (same as left-hand scale) shows growth rates in percent for both current and past expansions.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both current and past expansions. This is the common time scale along which the expansions are compared.

10 ACTUAL DATES refer only to the current expansion.

11 STANDING AT THE TROUGH is the growth rate at the time the current expansion began, and is calculated as the 3- month average centered on the trough month.

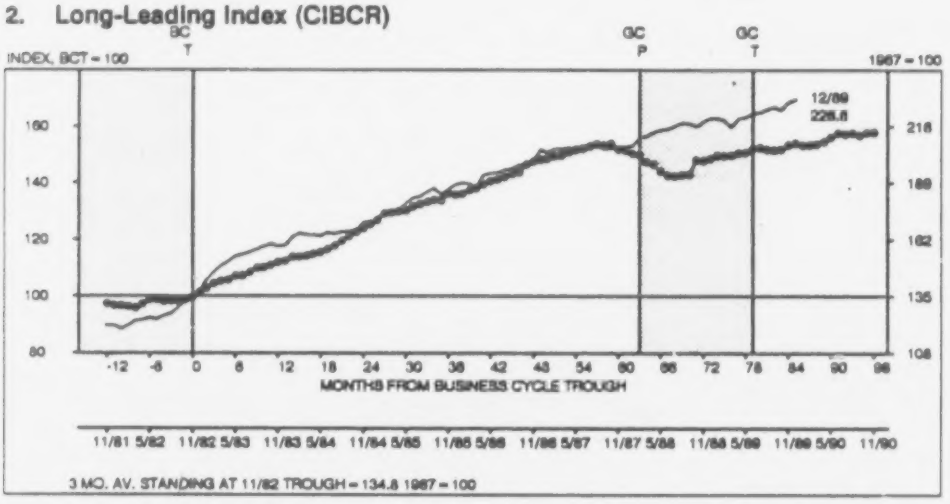
oooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

———————— SOLID LINE indicates the current expansion, which began in November 1982, or Q4 1982.

1. Business Week Leading Index (CIBCR)

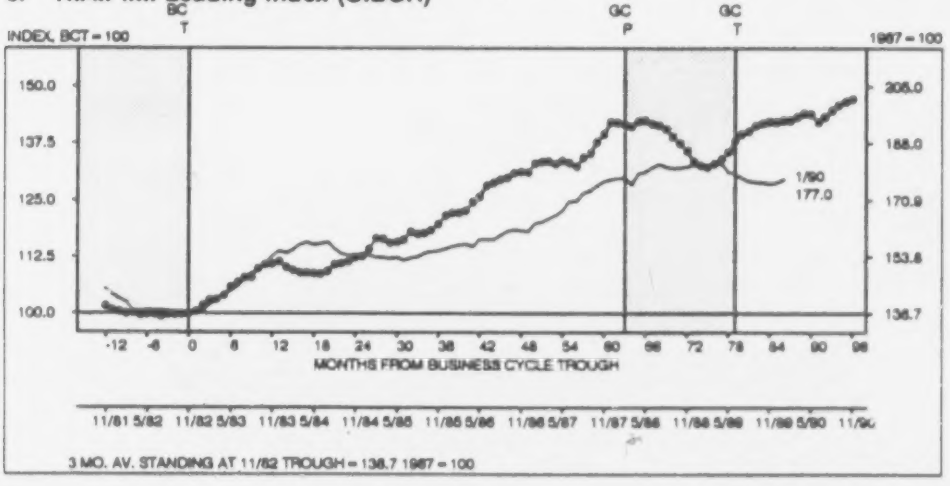
The Business Week Leading Index points to a weakening economy in the near term ...

2. Long-Leading Index (CIBCR)



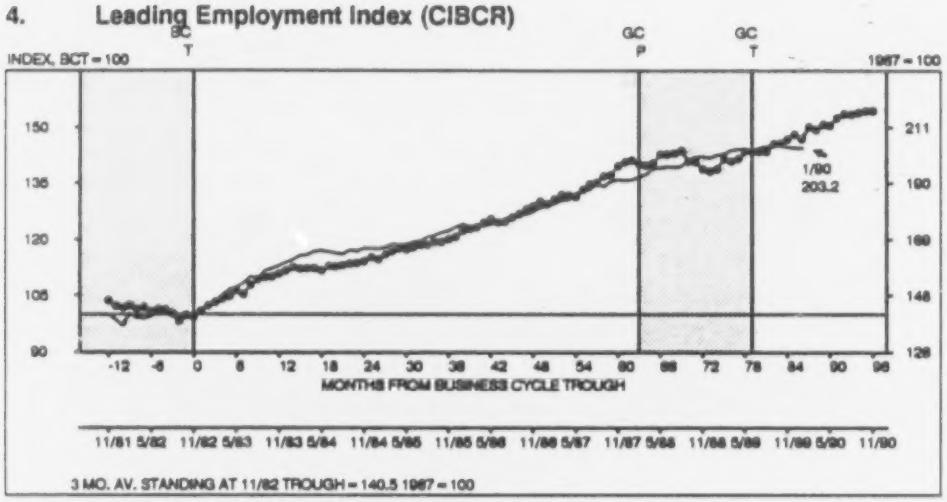
... but the Long-Leading Index predicts renewed growth further down the road.

3. N.A.P.M. Leading Index (CIBCR)

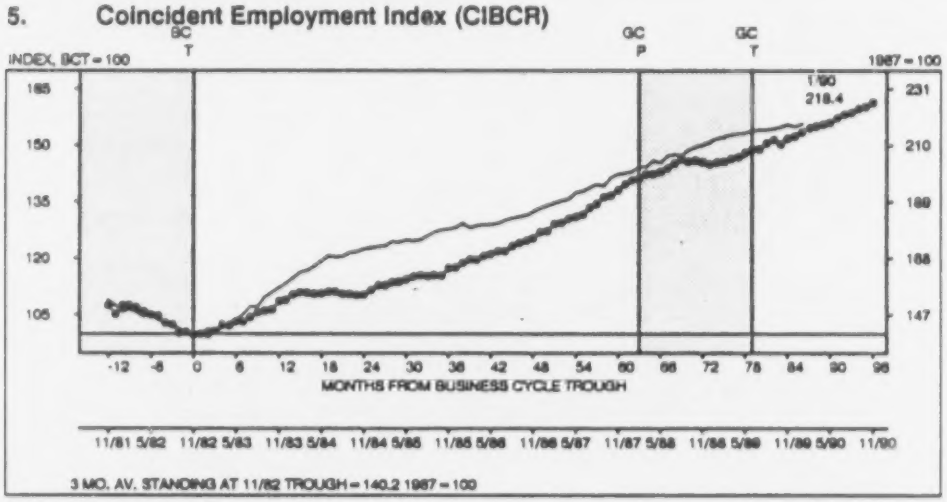


The February number of 175.4 indicates a deepening slump in the manufacturing sector.

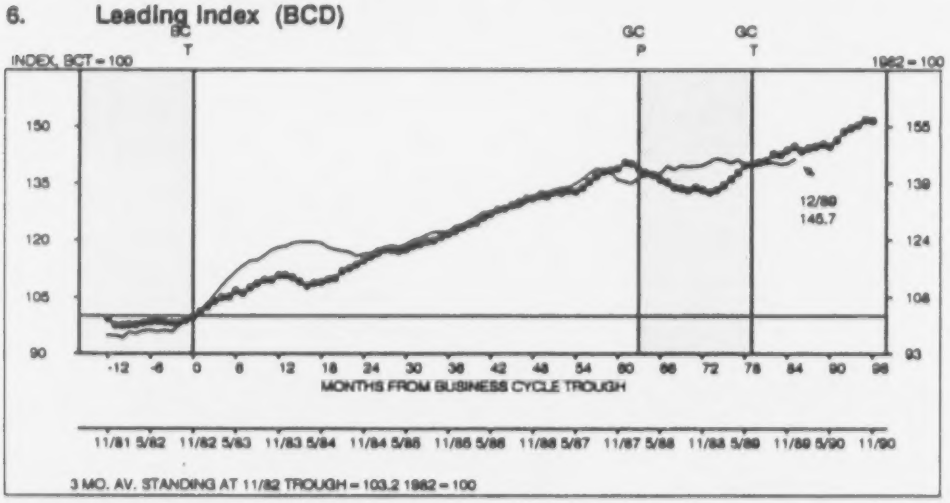
4. Leading Employment Index (CIBCR)



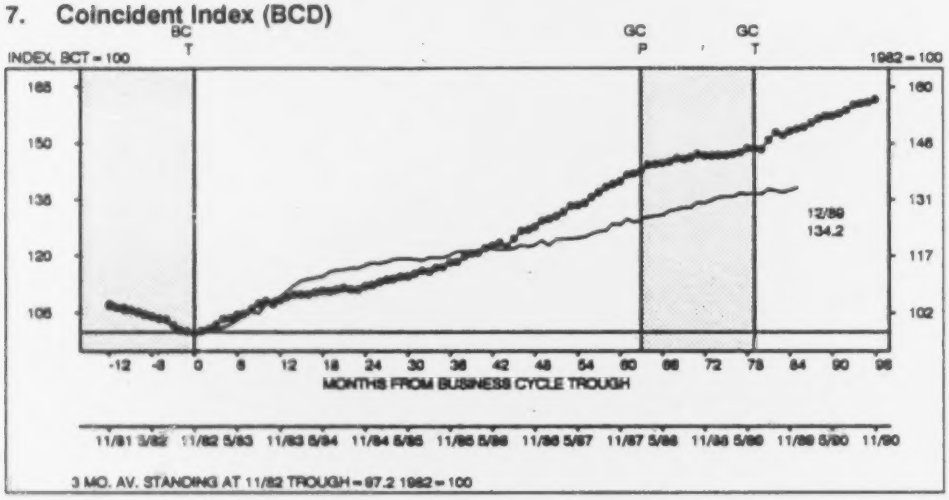
5. Coincident Employment Index (CIBCR)



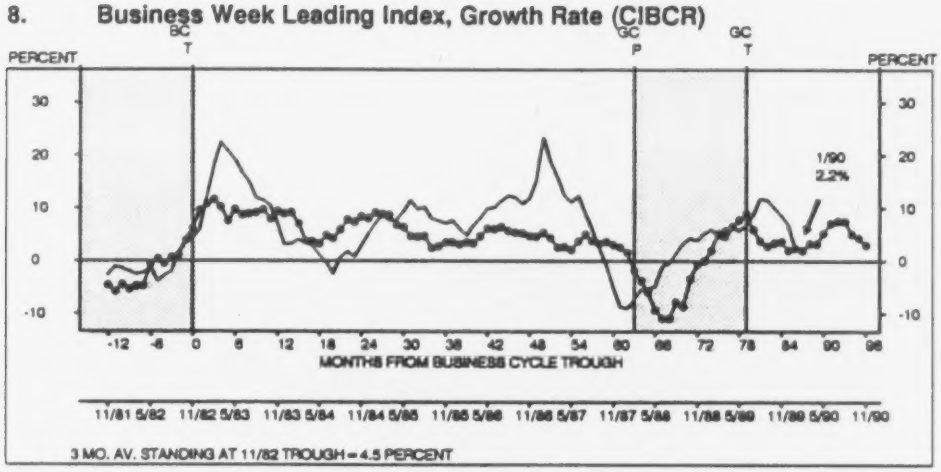
6. Leading Index (BCD)



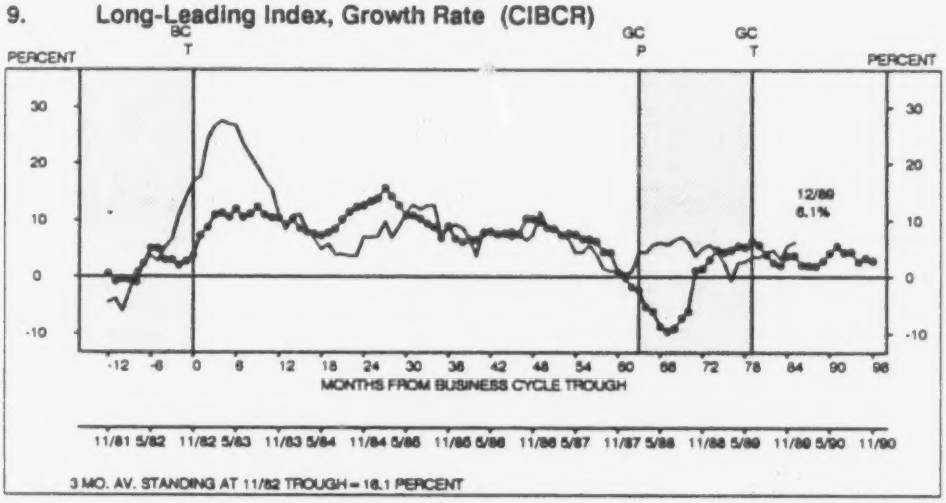
7. Coincident Index (BCD)



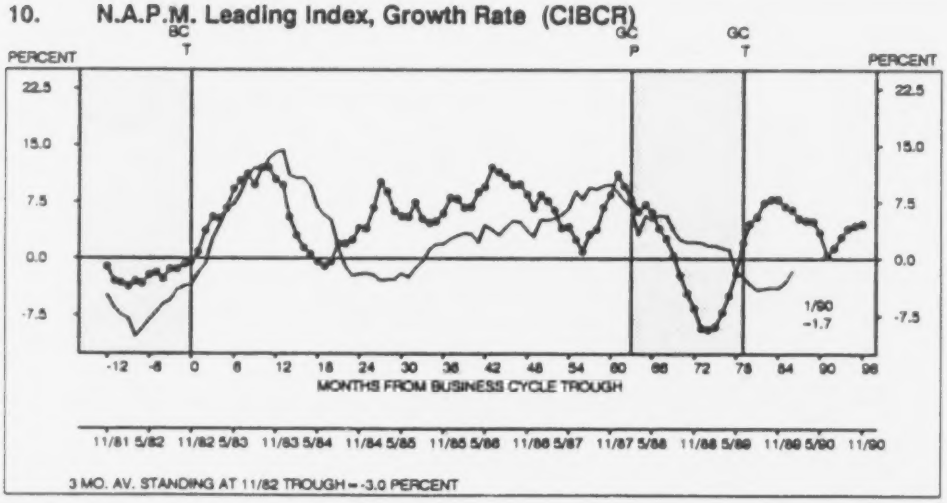
8. Business Week Leading Index, Growth Rate (CIBCR)



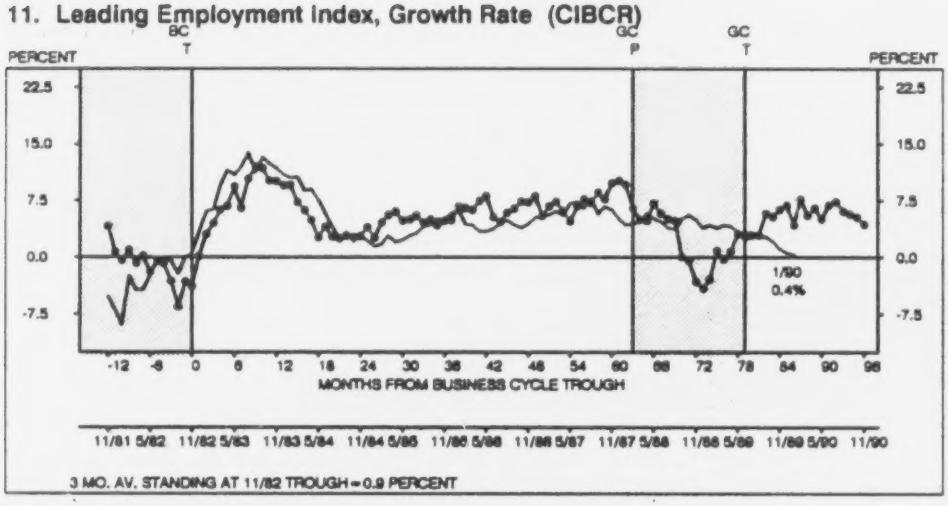
9. Long-Leading Index, Growth Rate (CIBCR)



10. N.A.P.M. Leading Index, Growth Rate (CIBCR)

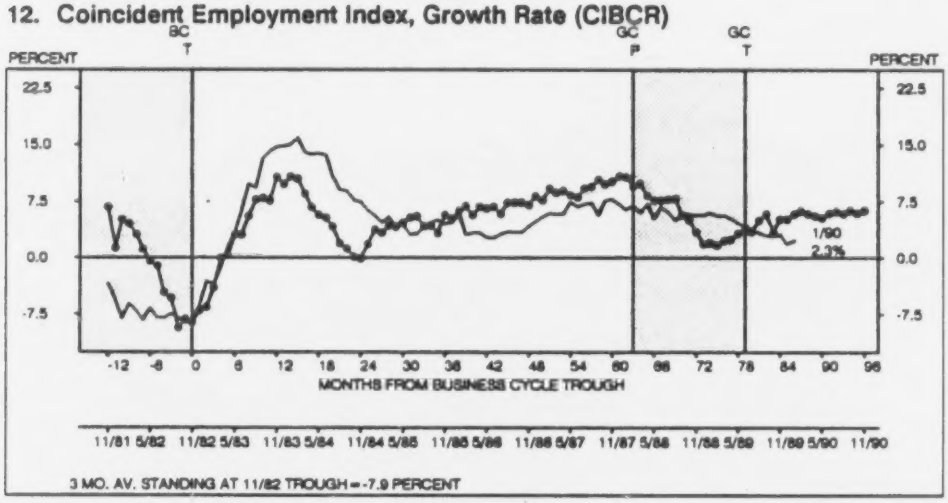


11. Leading Employment Index, Growth Rate (CIBCR)

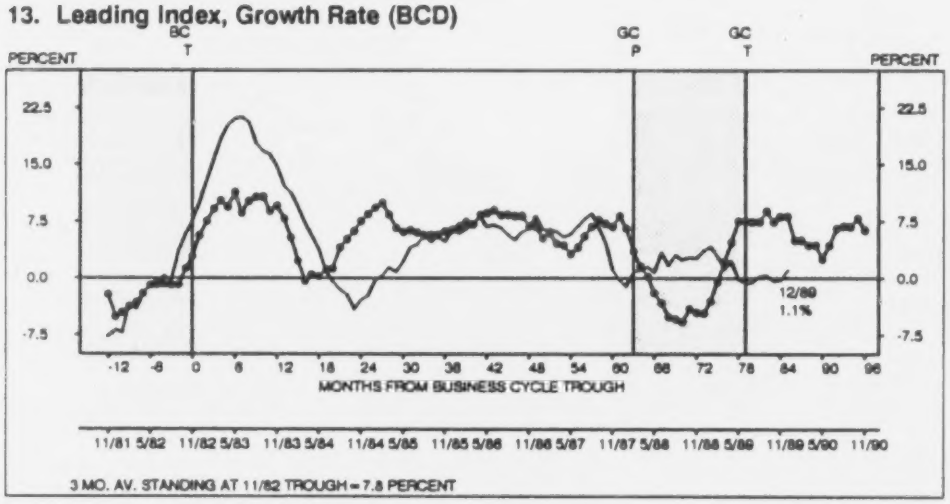


A growth rate below 0.7% implies that the average unemployment rate over the next six months should rise at least half a percent.

12. Coincident Employment Index, Growth Rate (CIBCR)

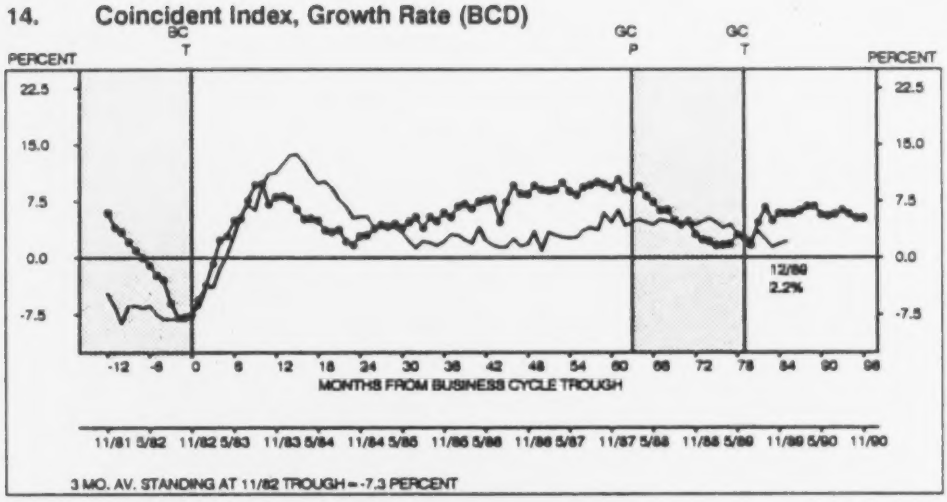


13. Leading Index, Growth Rate (BCD)

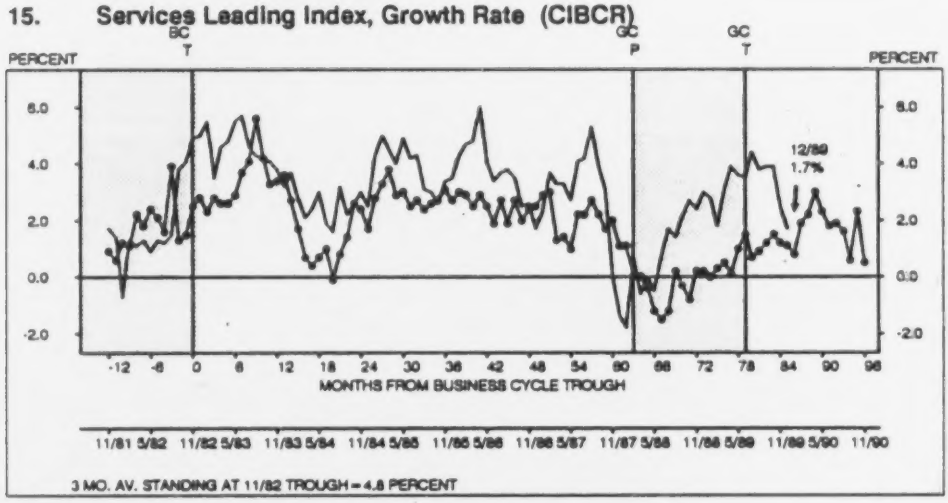


The January growth rate of 0.8% points to a pretty weak economy.

14. Coincident Index, Growth Rate (BCD)

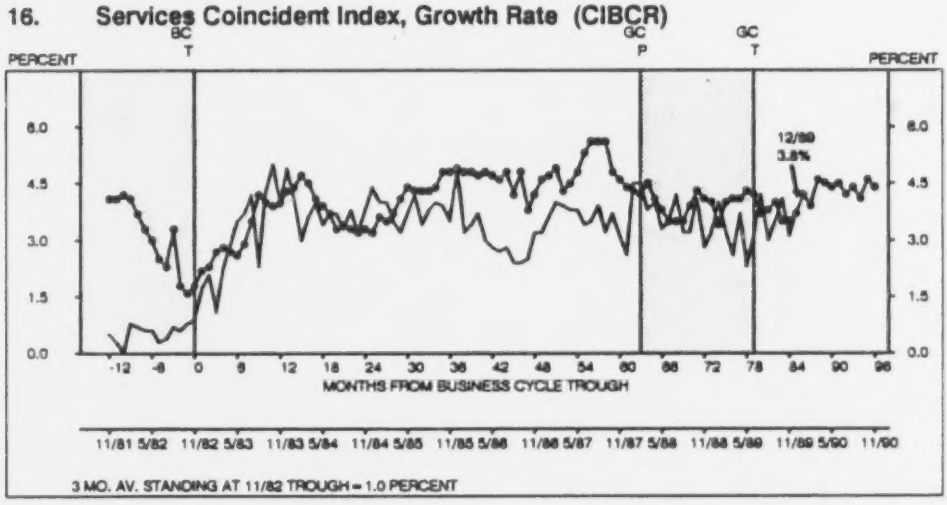


15. Services Leading Index, Growth Rate (CIBCR)

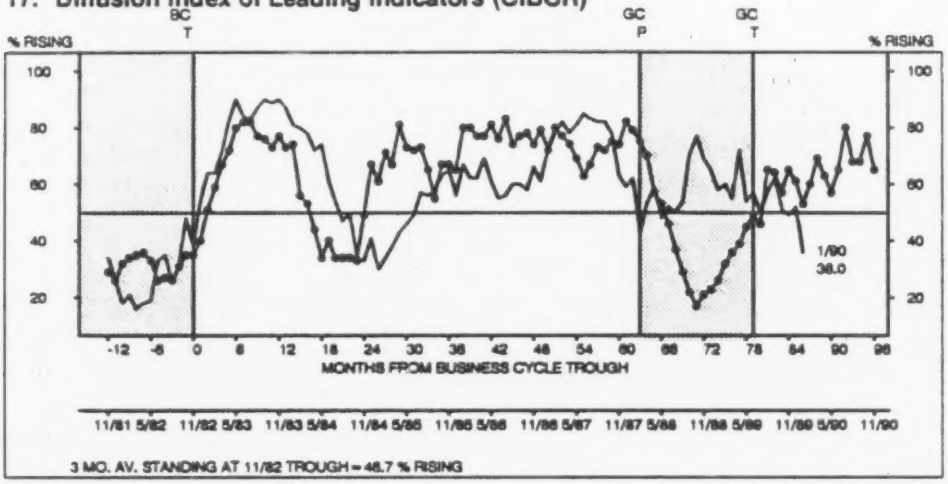


Given the weakness in manufacturing, the low growth rate of the Services Leading Index is disquieting, even though it rose to 2.4% in February.

16. Services Coincident Index, Growth Rate (CIBCR)

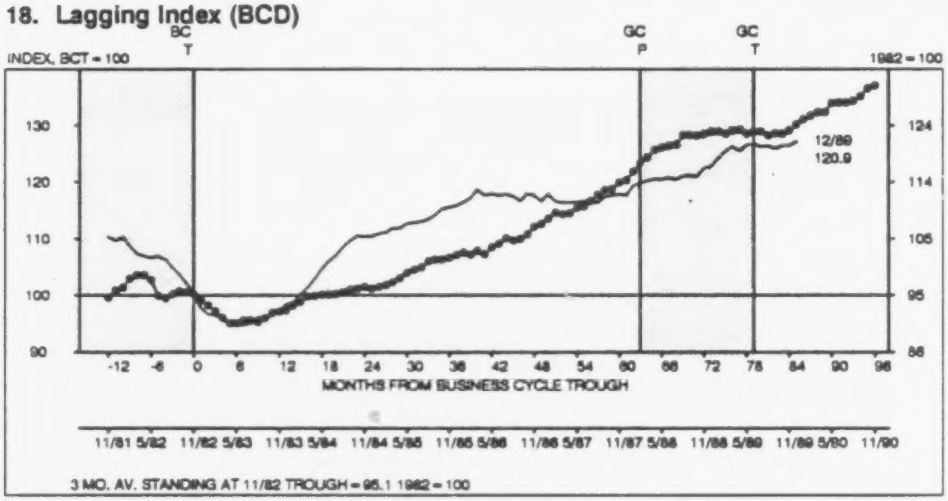


17. Diffusion Index of Leading Indicators (CIBCR)



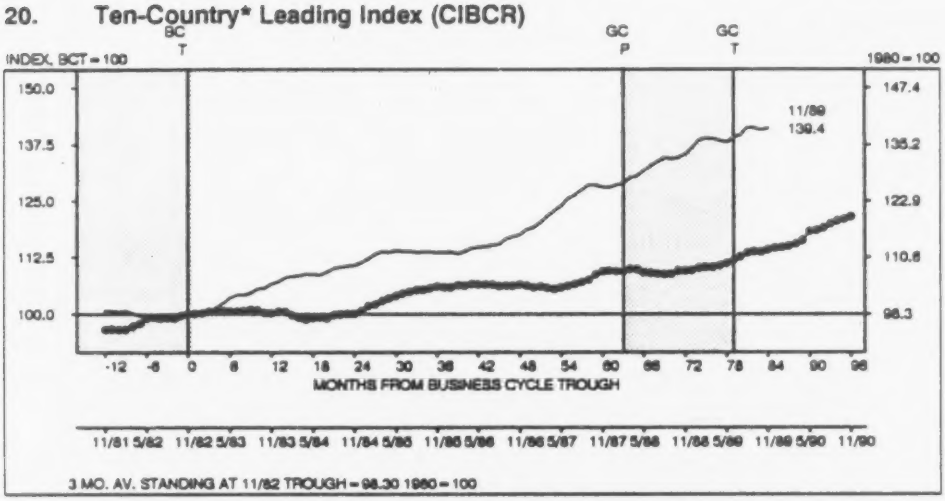
The percentage of leaders rising hasn't been this low since the 1984-86 slowdown.

18. Lagging Index (BCD)

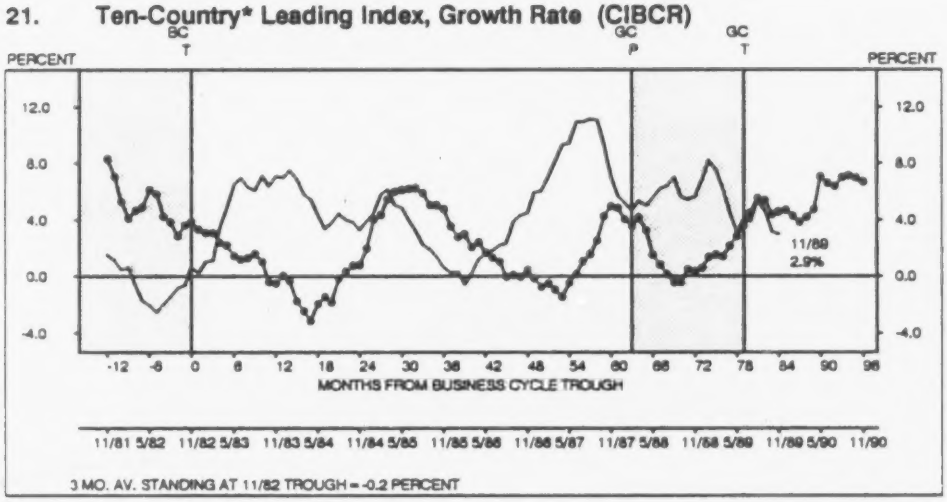


19. Ratio, Coincident to Lagging Index

20. Ten-Country* Leading Index (CIBCR)



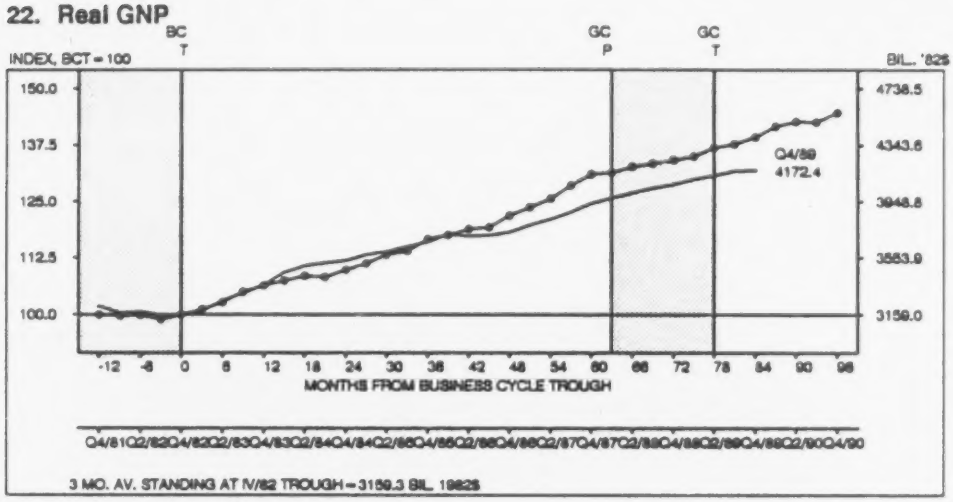
21. Ten-Country* Leading Index, Growth Rate (CIBCR)



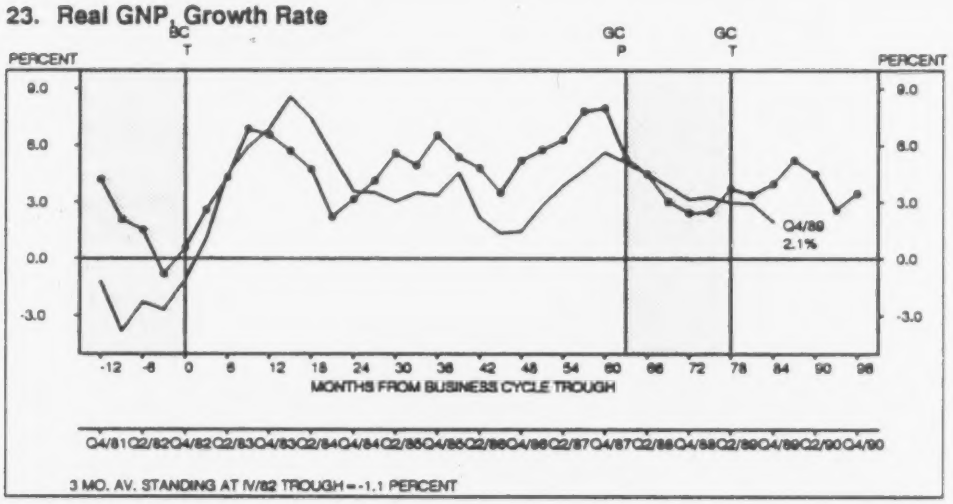
Slowing growth abroad — at a four-year low and dropping — is likely to hurt U.S. exports.

*Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, R.O.C., Korea, R.O.K., and New Zealand.

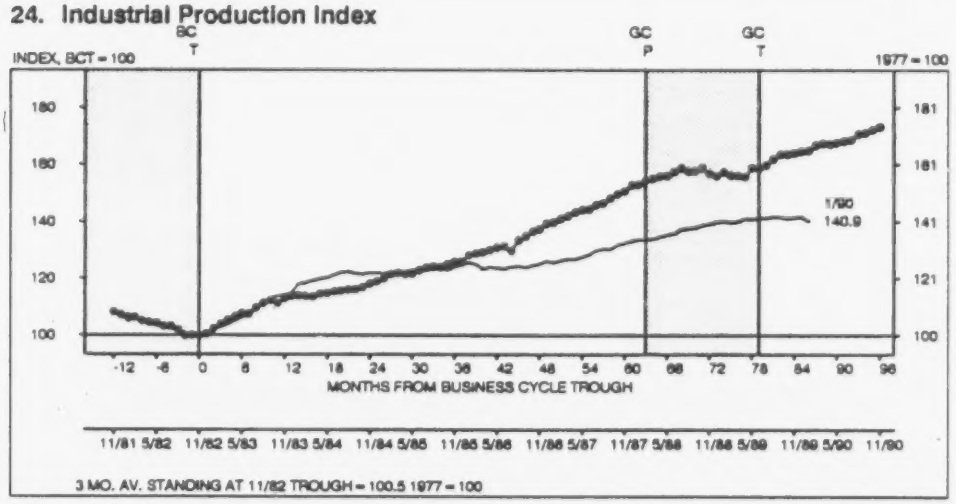
22. Real GNP



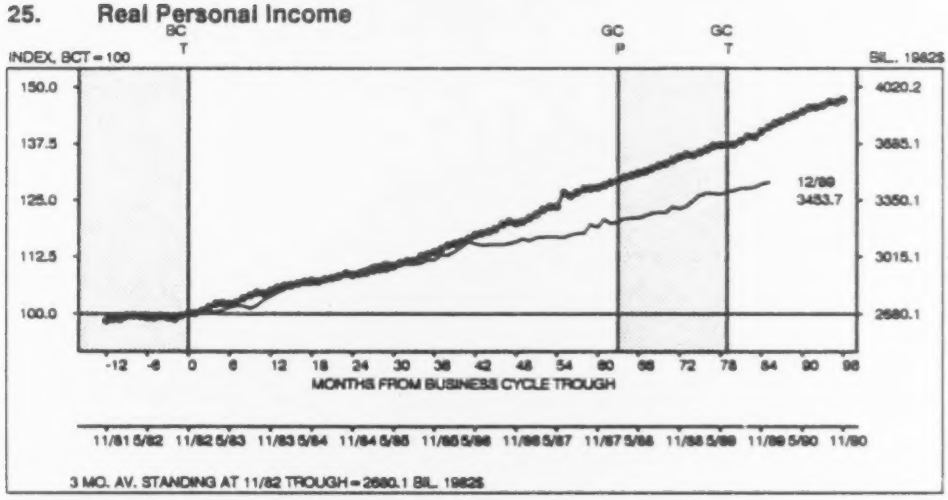
23. Real GNP, Growth Rate



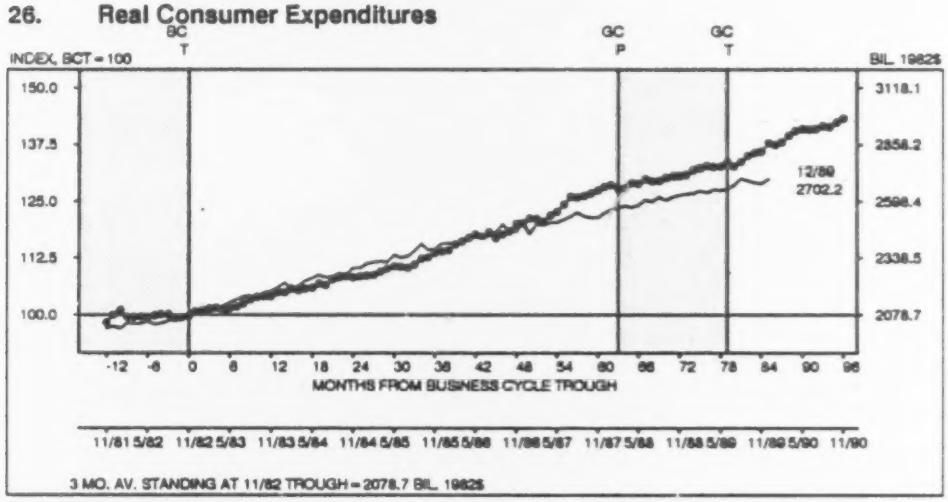
24. Industrial Production Index



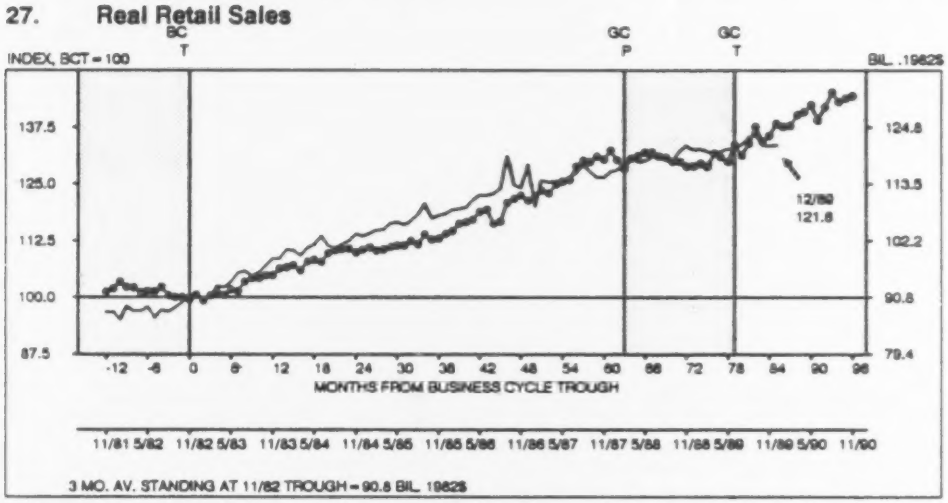
25. Real Personal Income



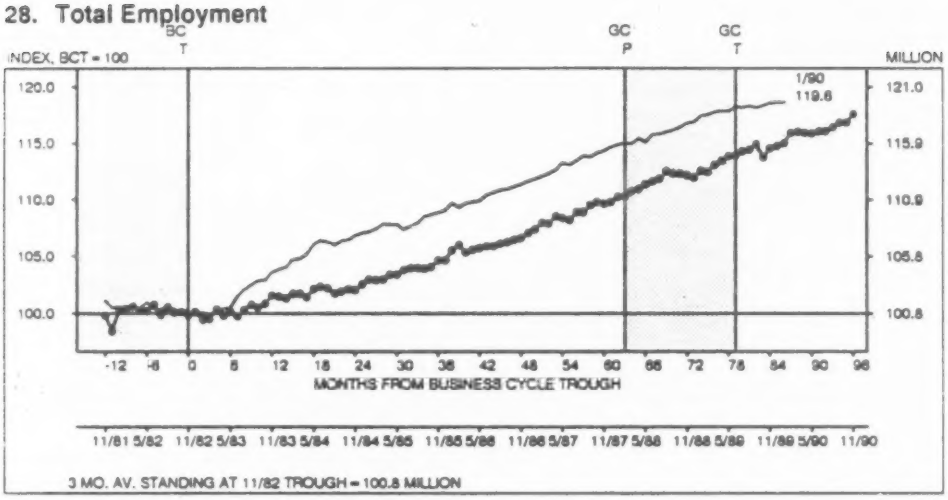
26. Real Consumer Expenditures



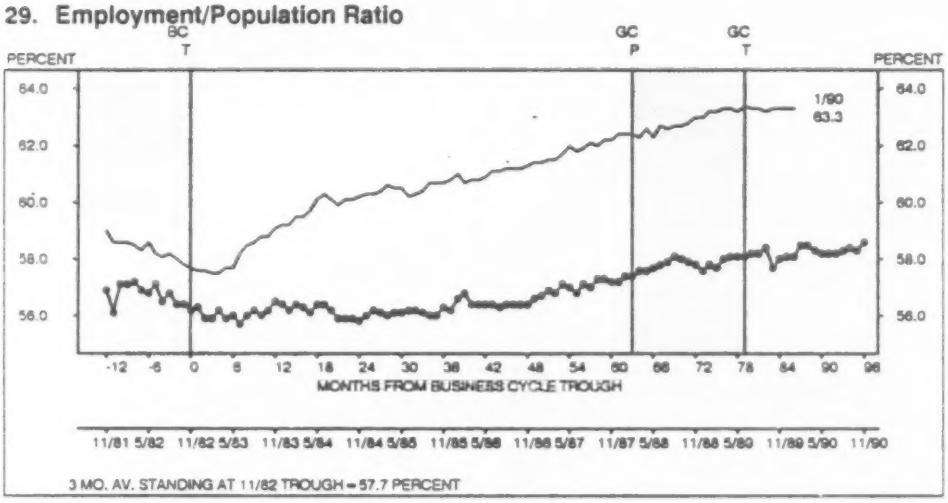
27. Real Retail Sales



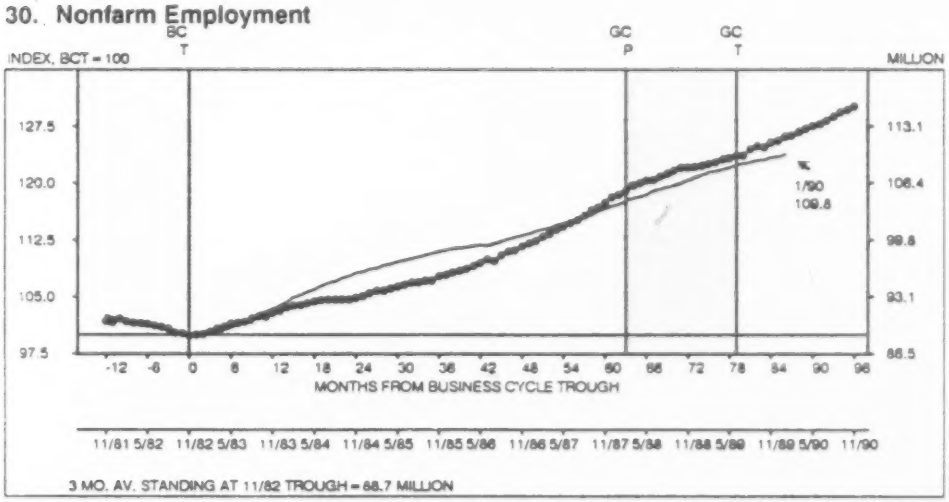
28. Total Employment



29. Employment/Population Ratio

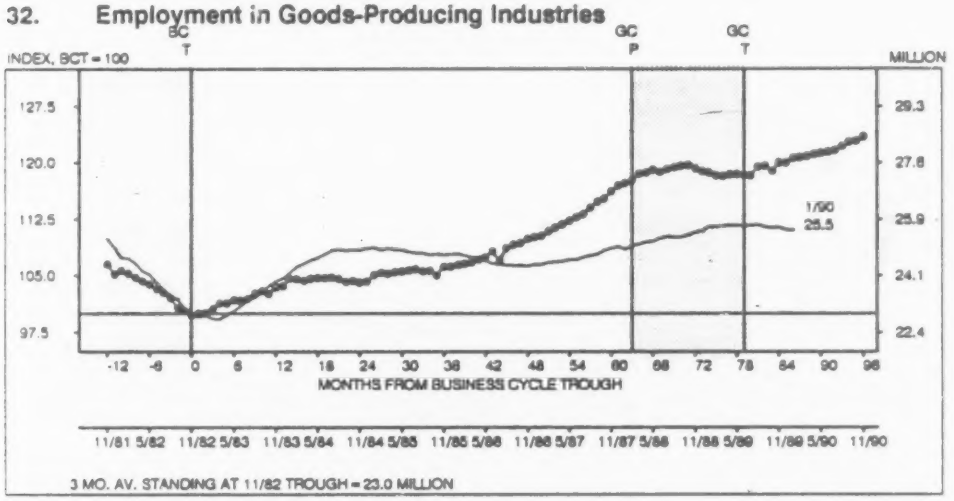


30. Nonfarm Employment

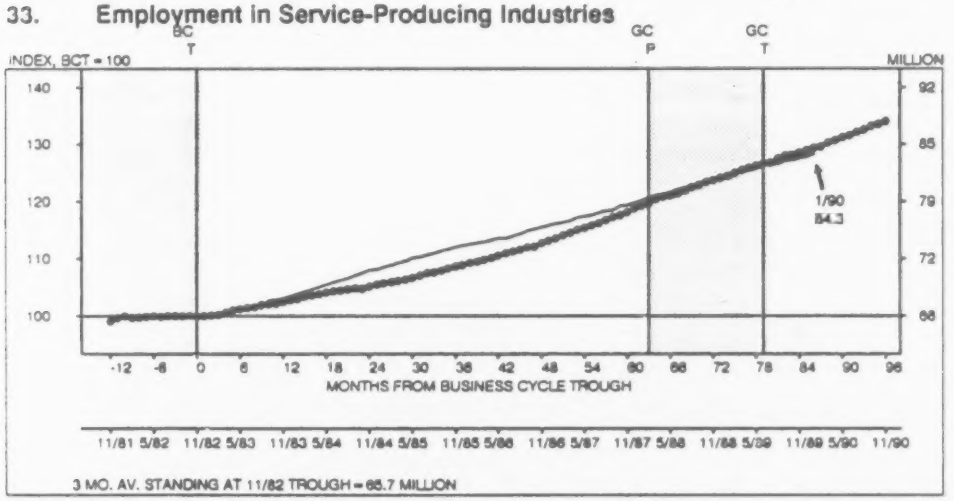


31. Nonfarm Employee-Hours

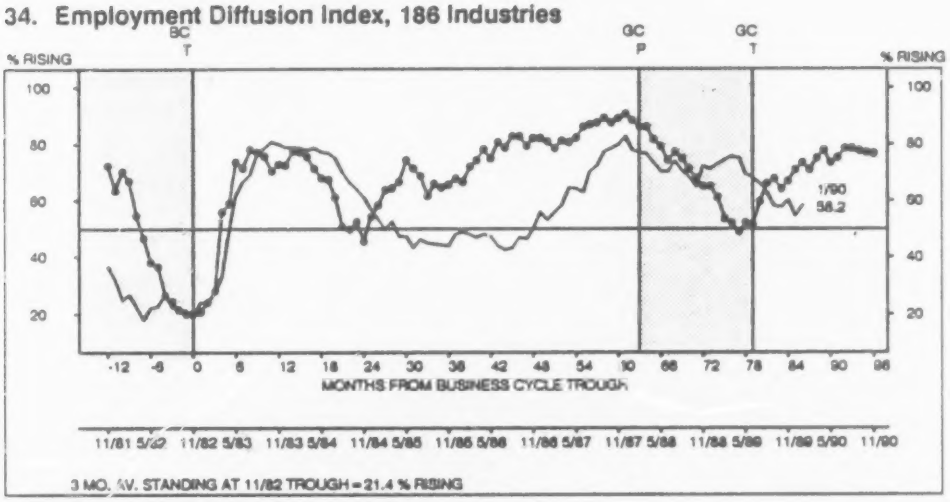
32. Employment in Goods-Producing Industries



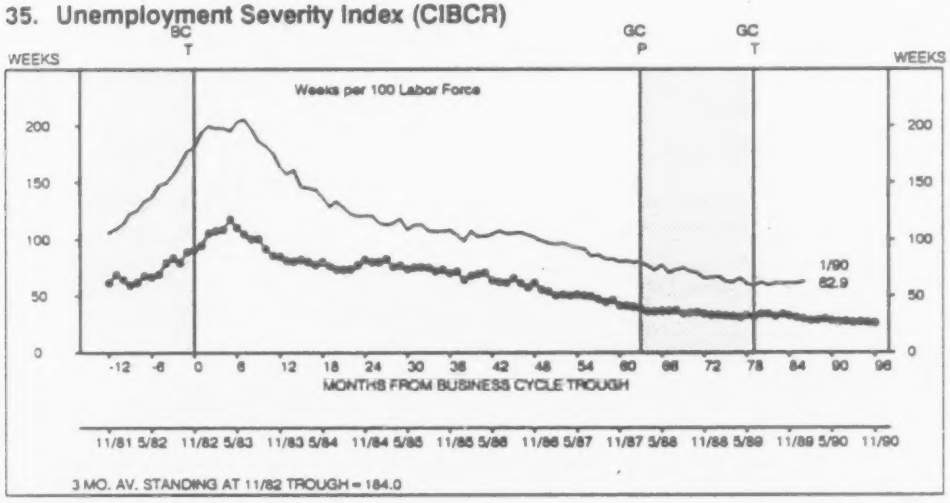
33. Employment in Service-Producing Industries



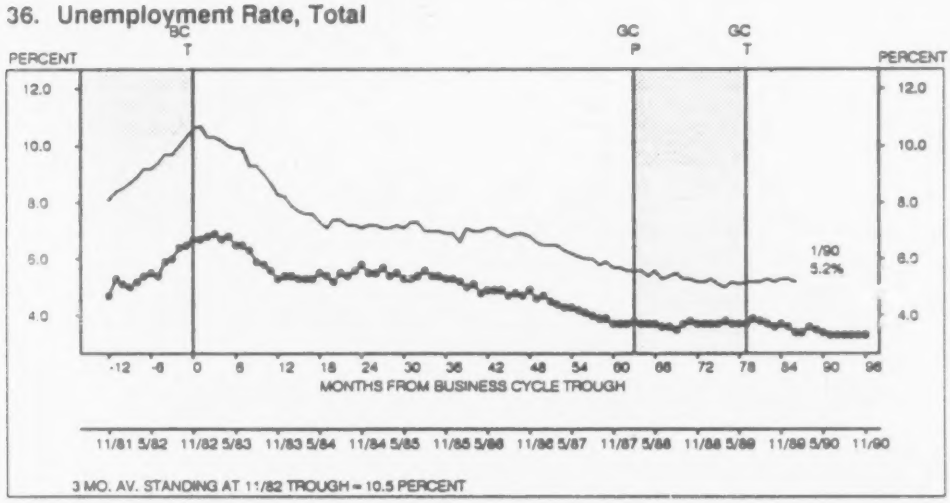
34. Employment Diffusion Index, 186 Industries



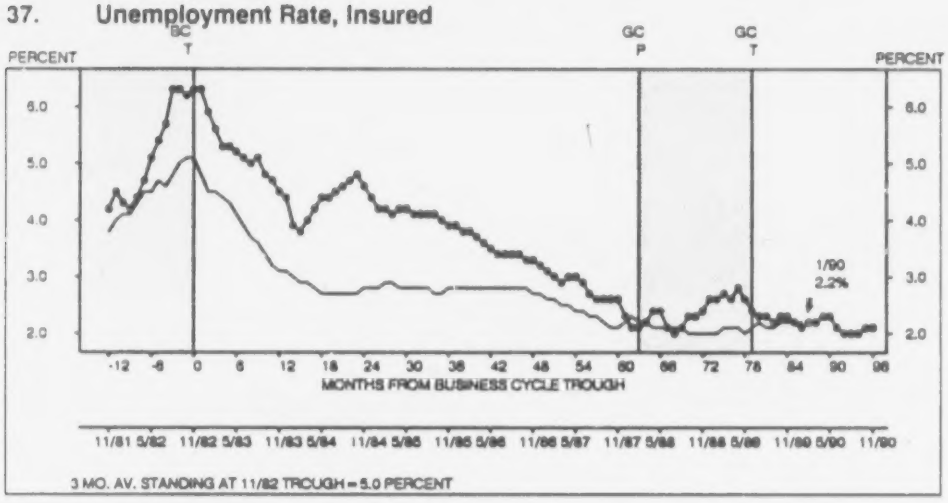
35. Unemployment Severity Index (CIBCR)



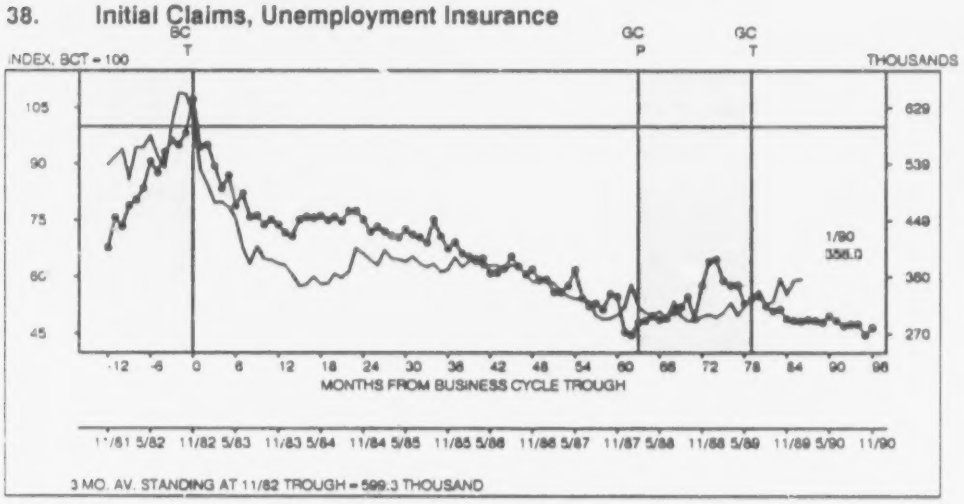
36. Unemployment Rate, Total



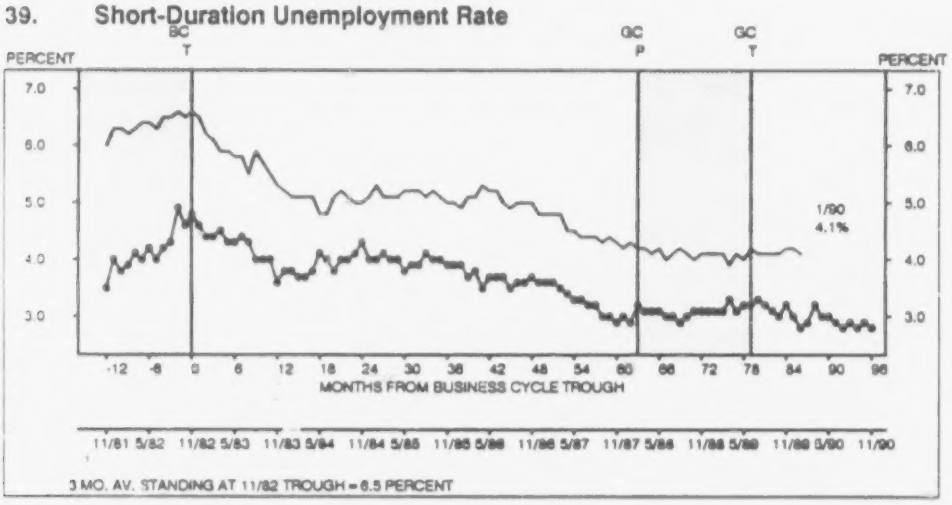
37. Unemployment Rate, Insured



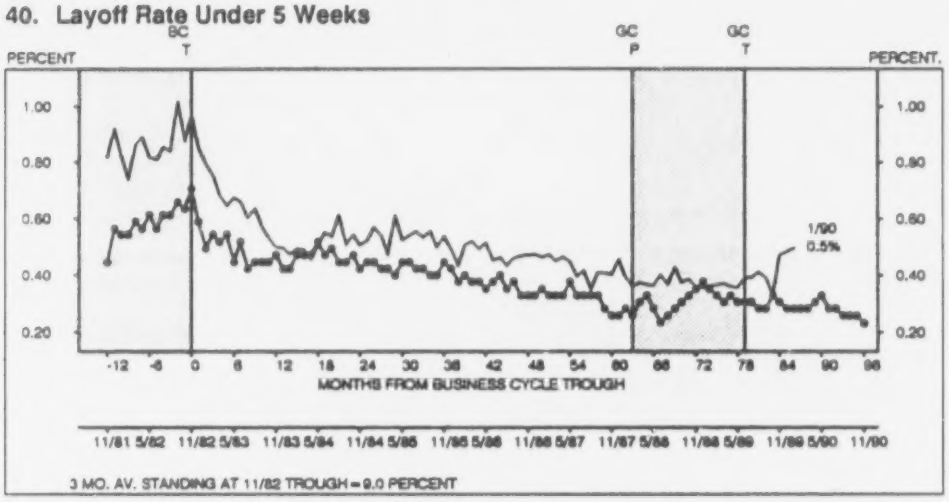
38. Initial Claims, Unemployment Insurance



39. Short-Duration Unemployment Rate

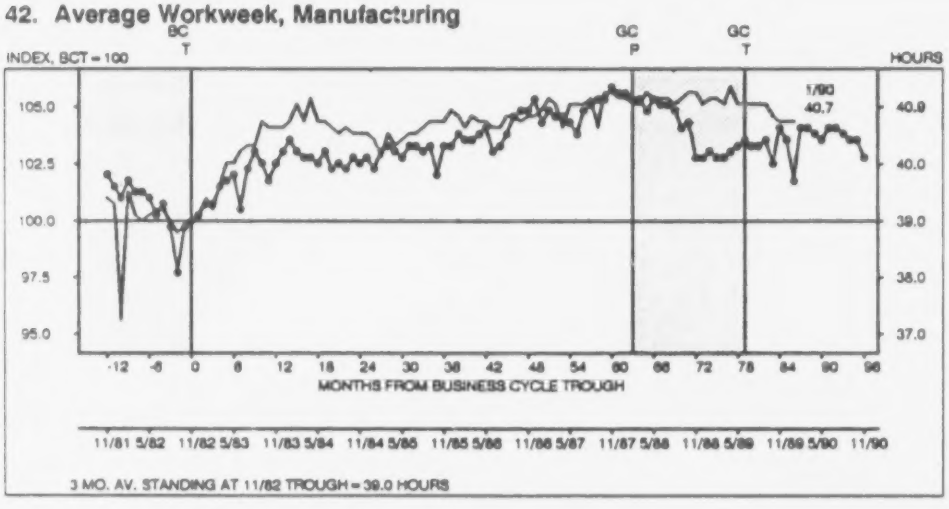


40. Layoff Rate Under 5 Weeks

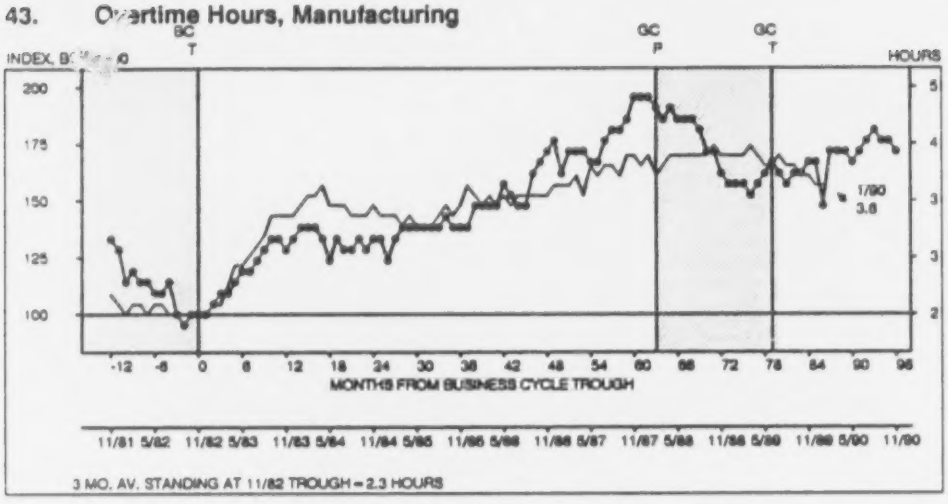


41. Voluntary to Involuntary Part-Time Employment Ratio

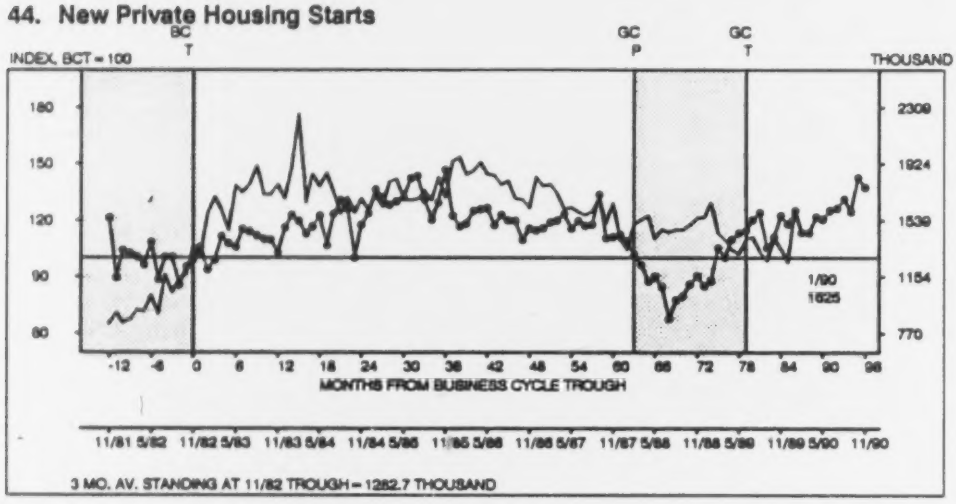
42. Average Workweek, Manufacturing



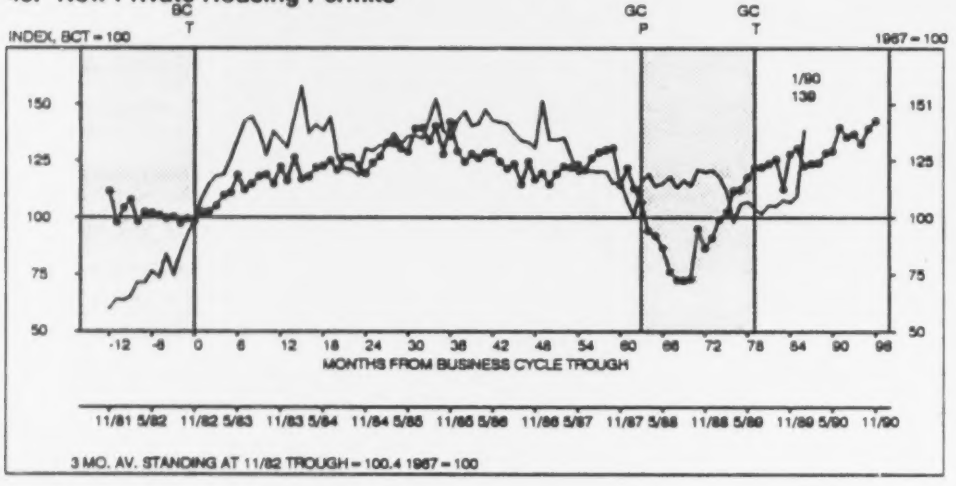
43. Overtime Hours, Manufacturing



44. New Private Housing Starts

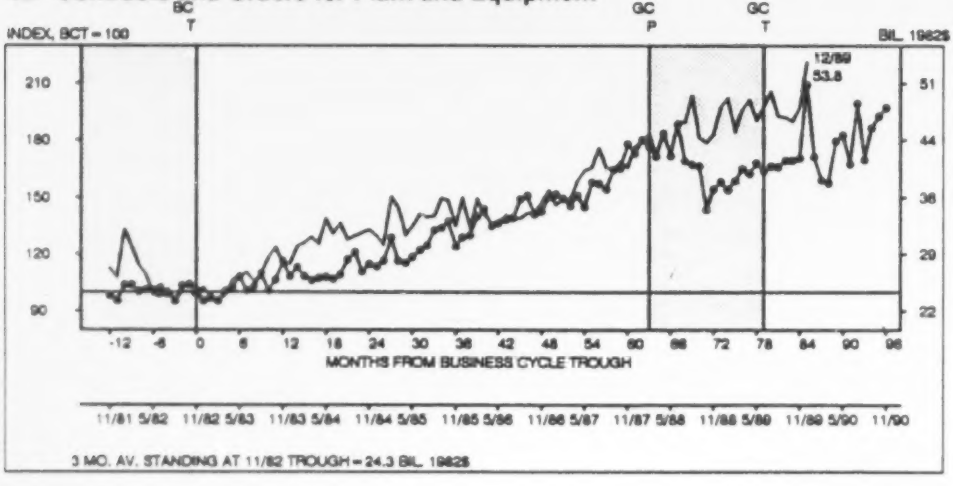


45. New Private Housing Permits

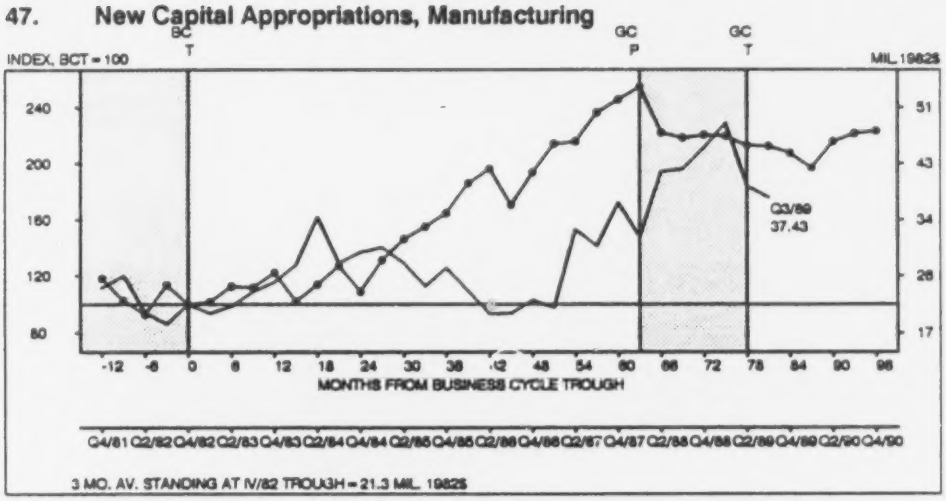


The latest jump reflects only the imminent legislation about facilities for the handicapped in multifamily dwellings.

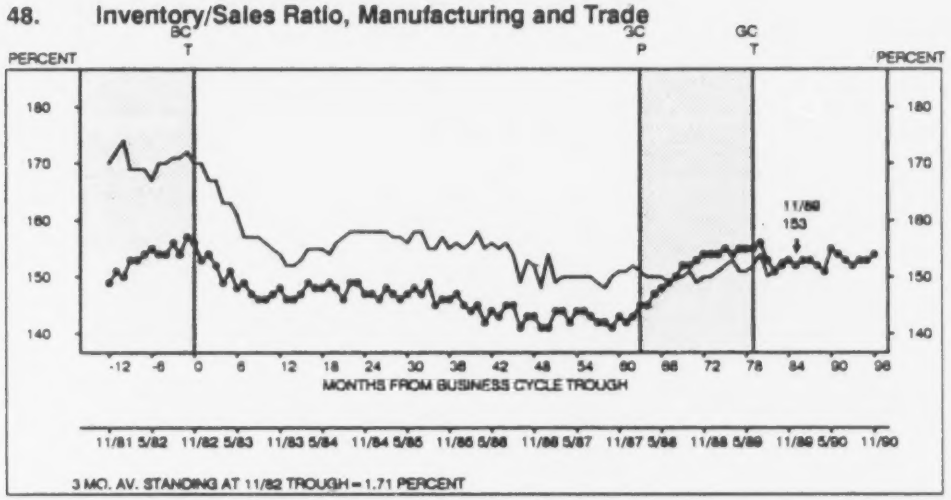
46. Contracts and Orders for Plant and Equipment



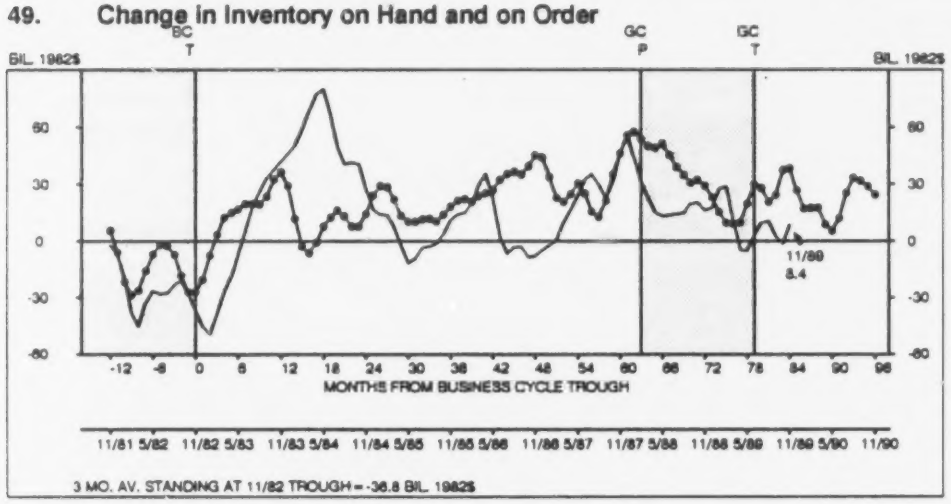
47. New Capital Appropriations, Manufacturing



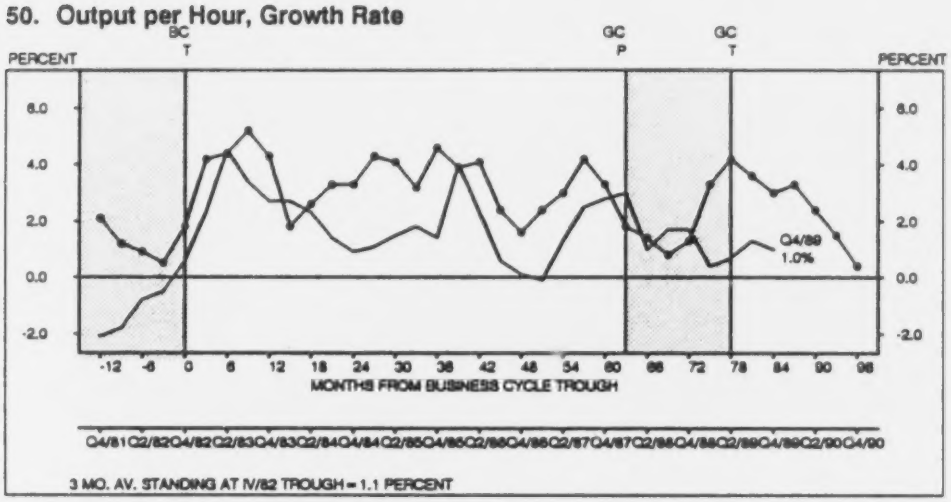
48. Inventory/Sales Ratio, Manufacturing and Trade



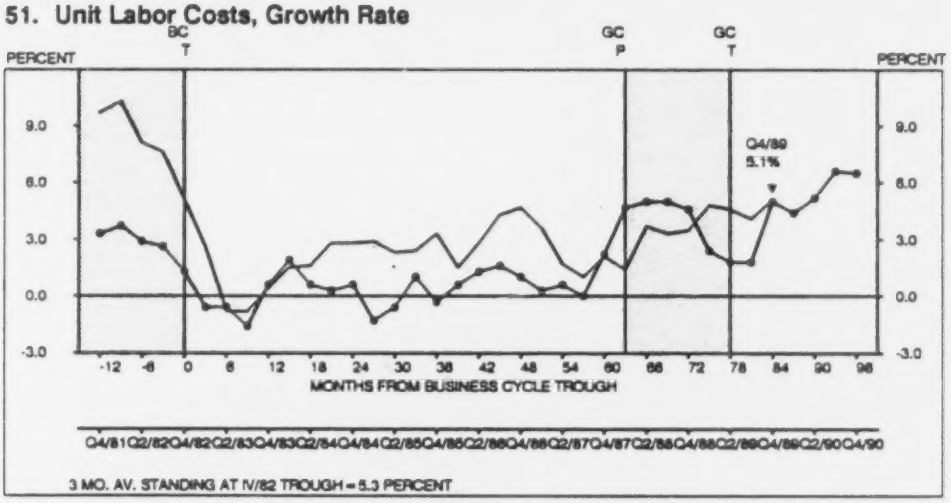
49. Change in Inventory on Hand and on Order



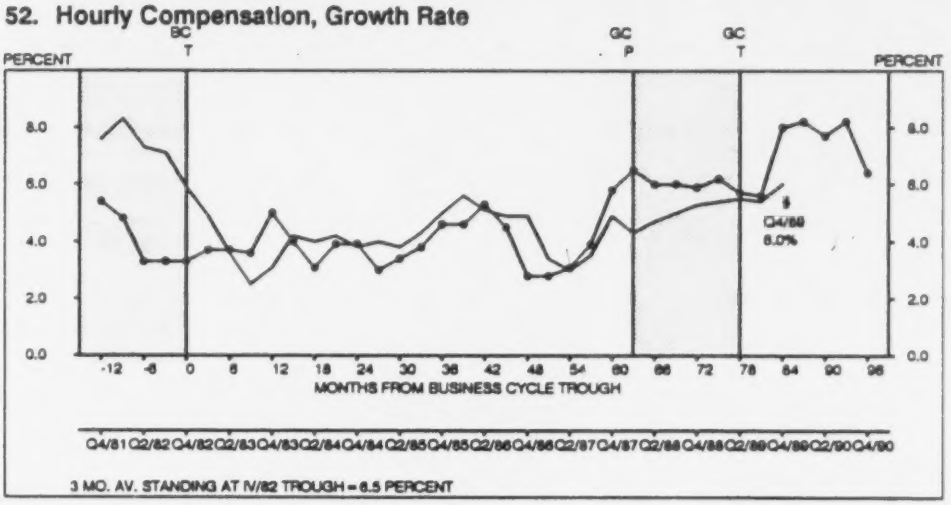
50. Output per Hour, Growth Rate



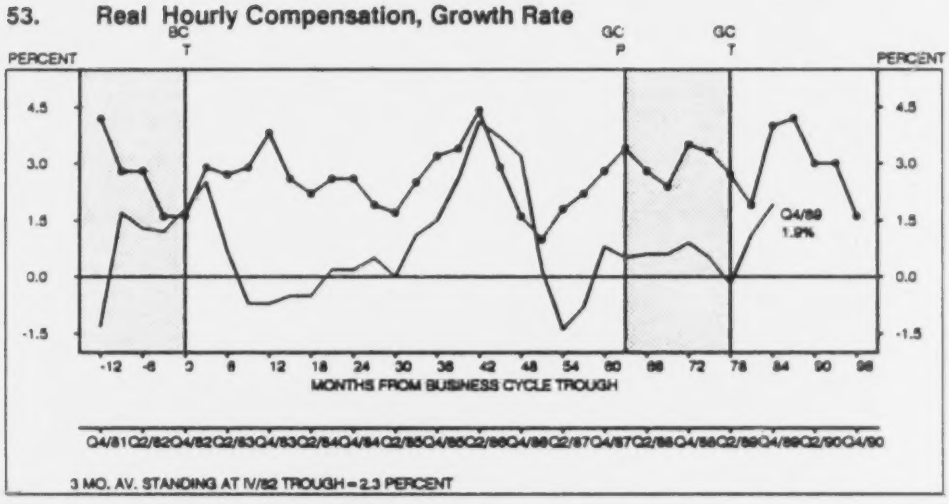
51. Unit Labor Costs, Growth Rate



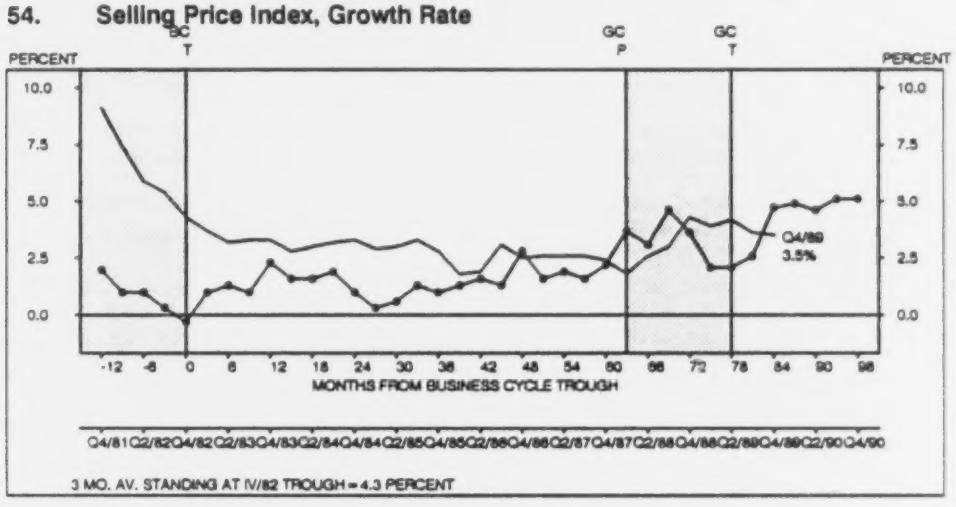
52. Hourly Compensation, Growth Rate



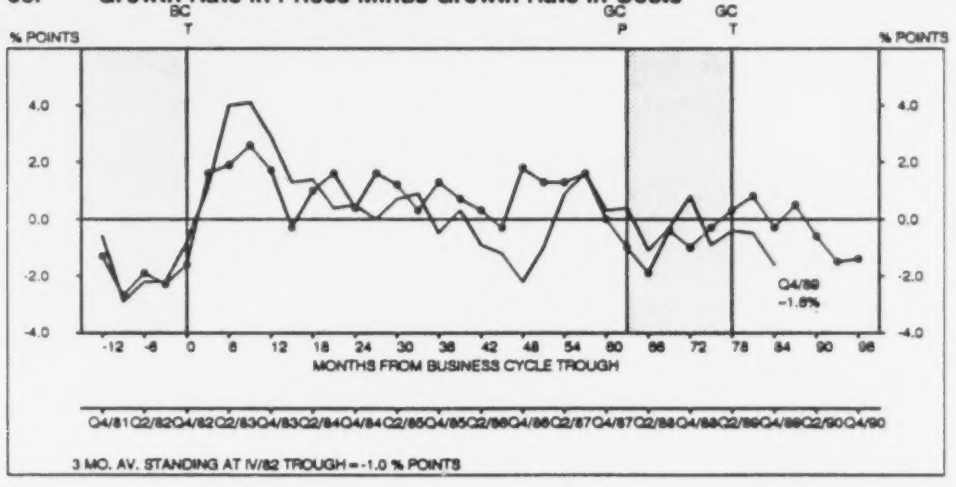
53. Real Hourly Compensation, Growth Rate



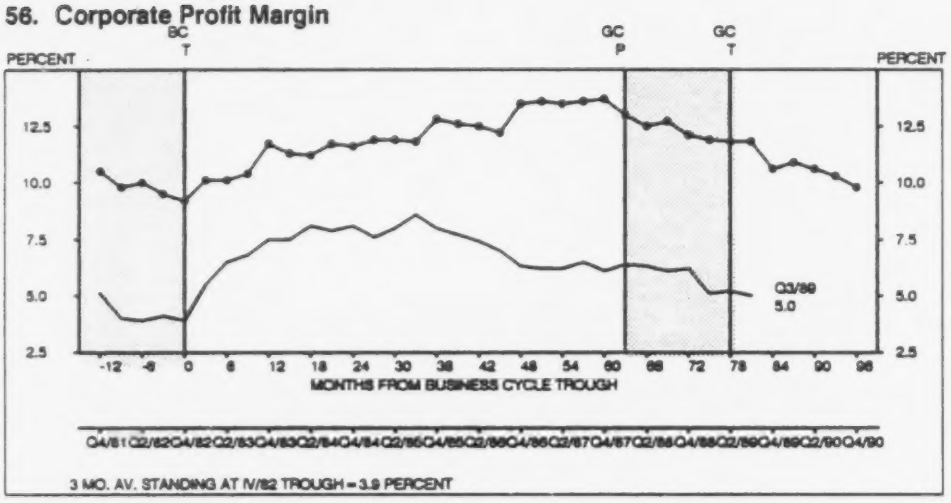
54. Selling Price Index, Growth Rate



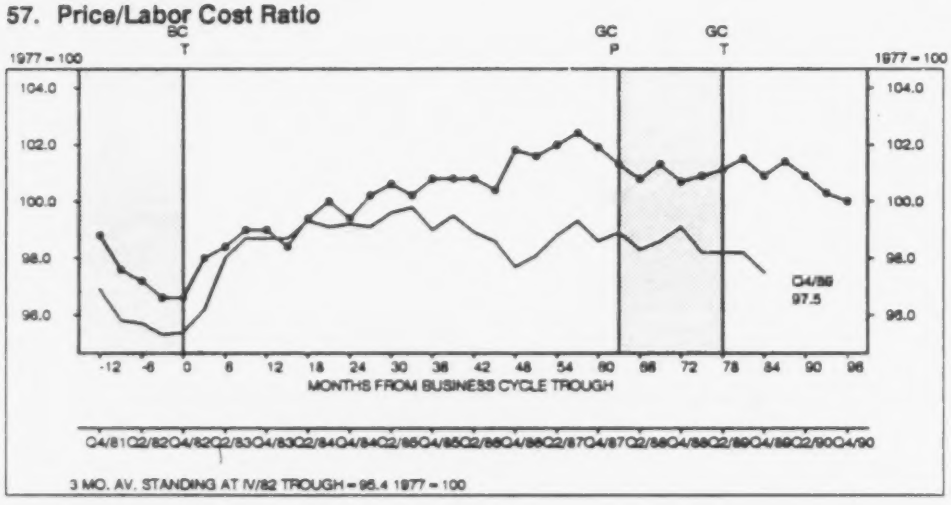
55. Growth Rate in Prices Minus Growth Rate in Costs



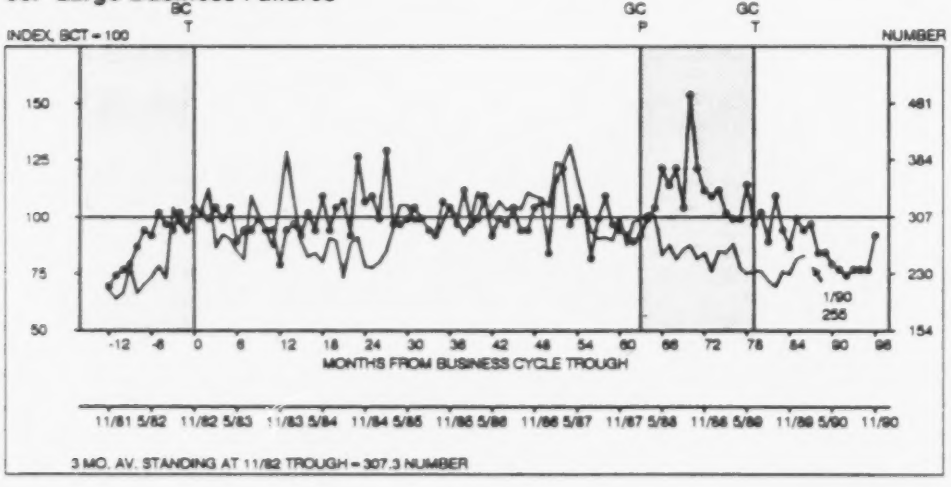
56. Corporate Profit Margin



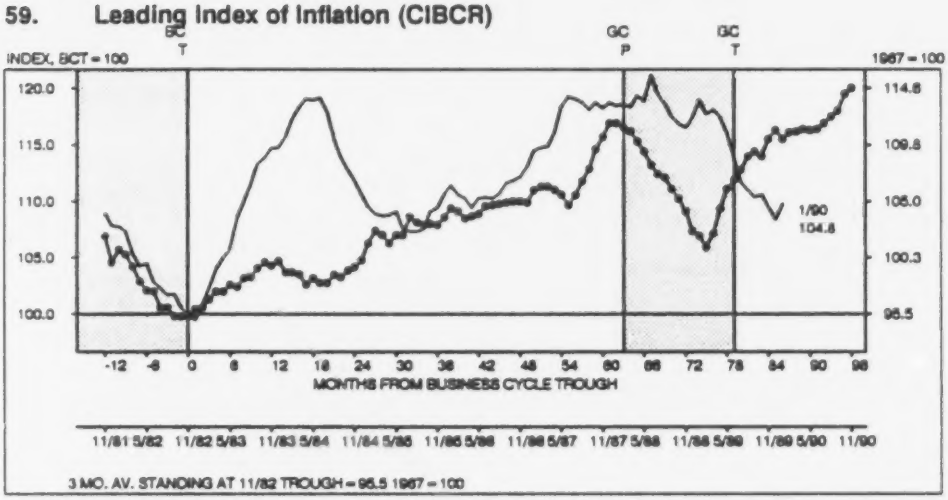
57. Price/Labor Cost Ratio



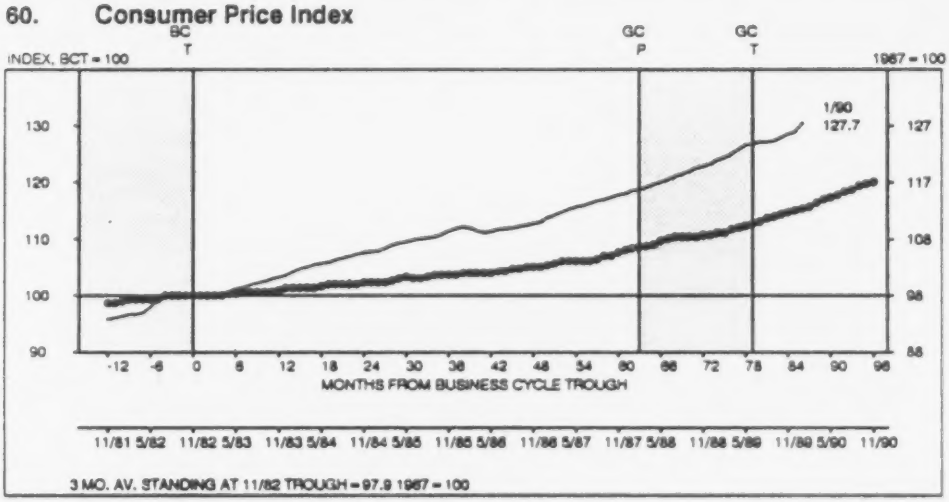
58. Large Business Failures



59. Leading Index of Inflation (CIBCR)

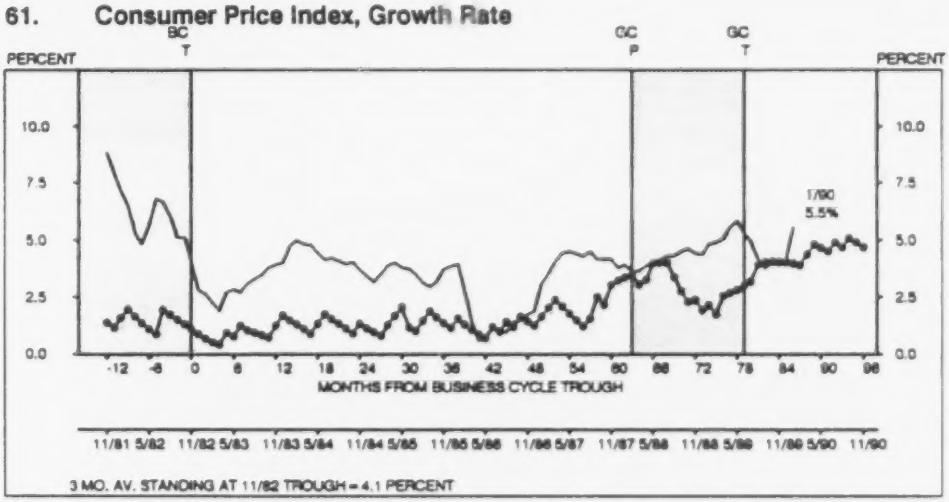


60. Consumer Price Index

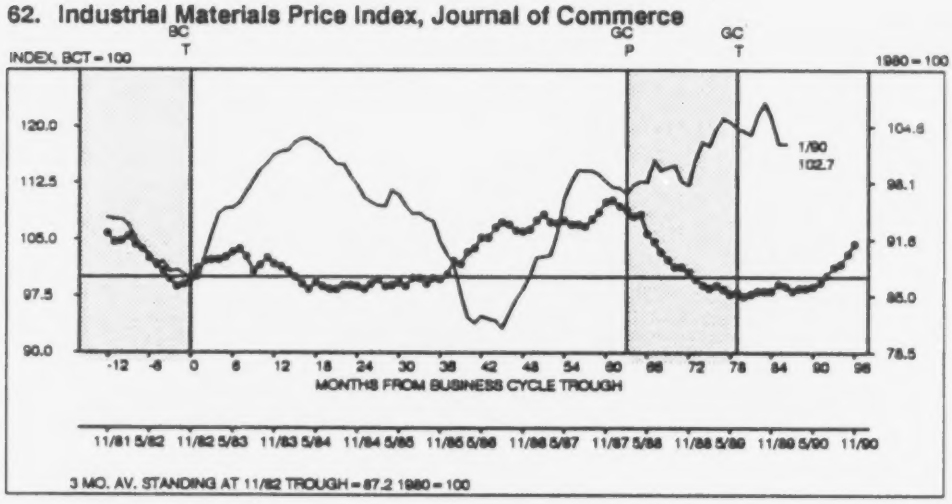


Despite the January uptick, inflation is likely to get lower before it gets much higher.

61. Consumer Price Index, Growth Rate

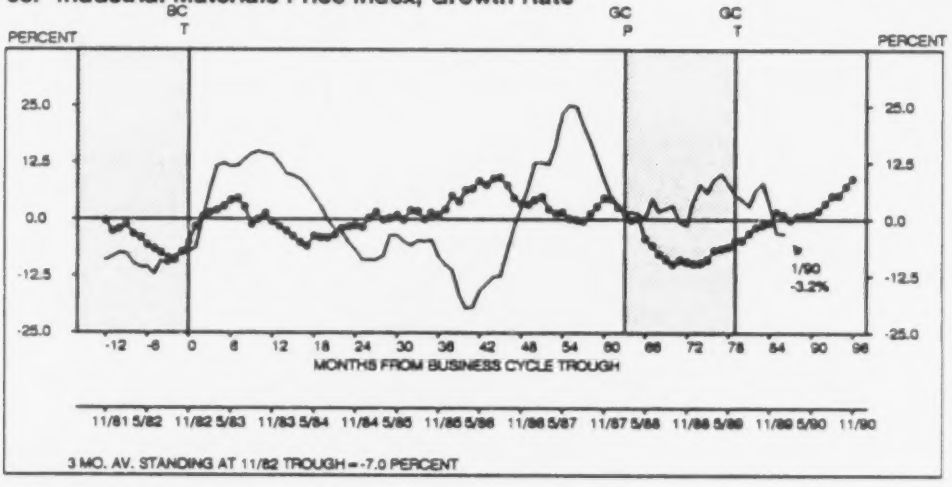


62. Industrial Materials Price Index, Journal of Commerce

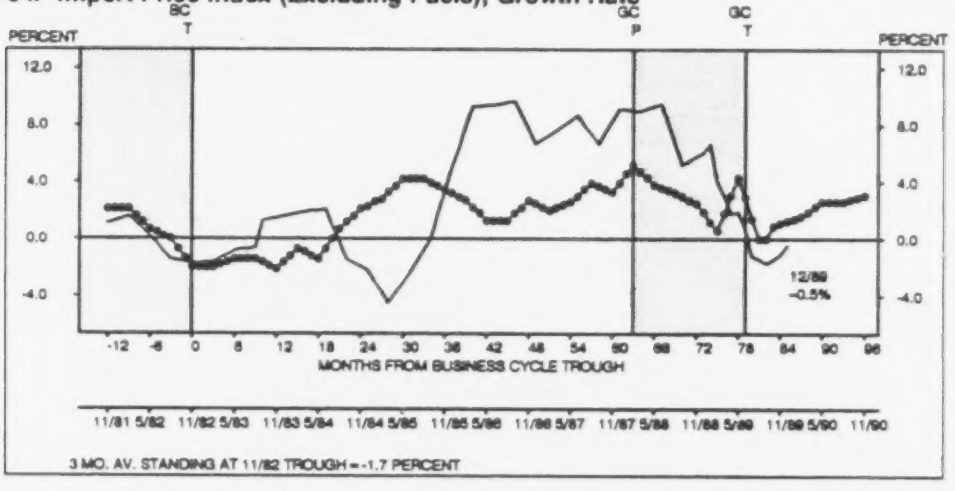


The February index was 101.8, and its growth rate down to –4.8%.

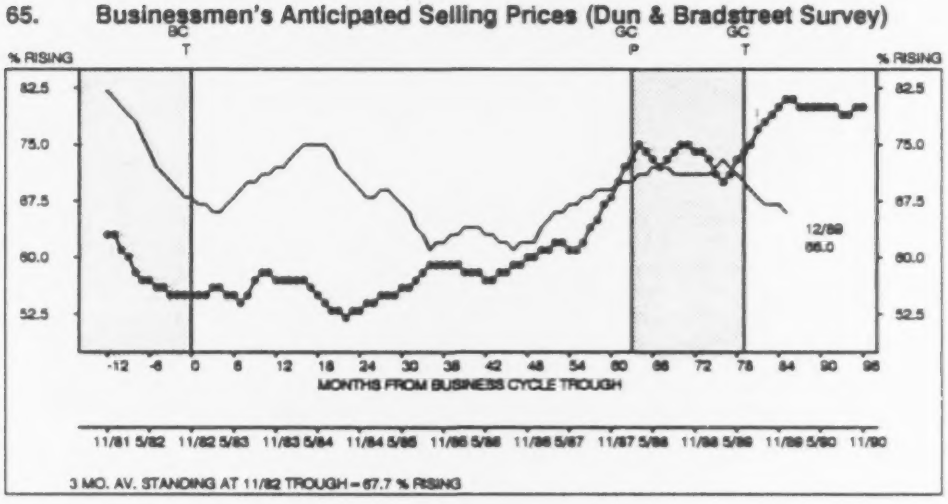
63. Industrial Materials Price Index, Growth Rate



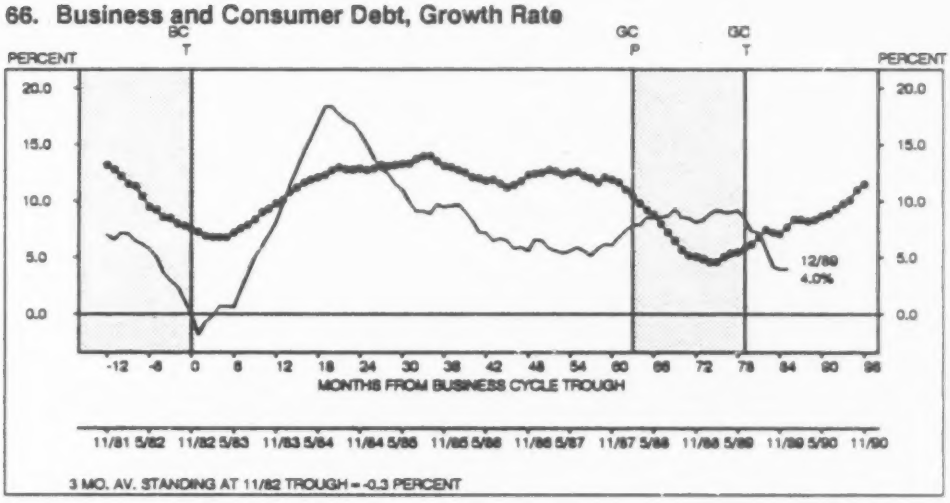
64. Import Price Index (Excluding Fuels), Growth Rate



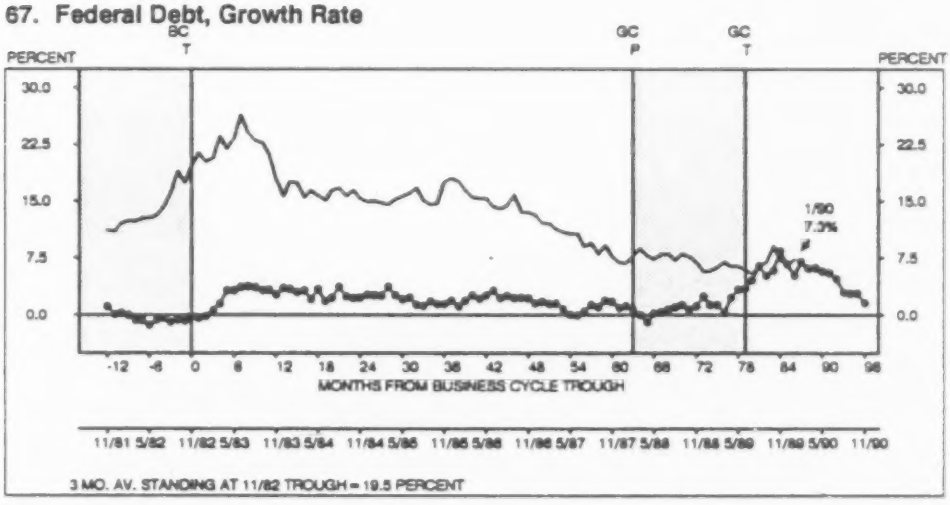
65. Businessmen's Anticipated Selling Prices (Dun & Bradstreet Survey)



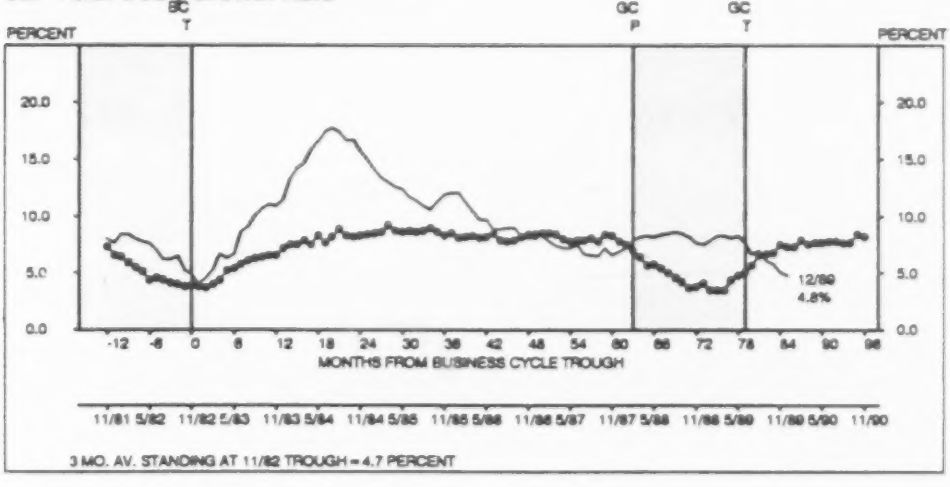
66. Business and Consumer Debt, Growth Rate



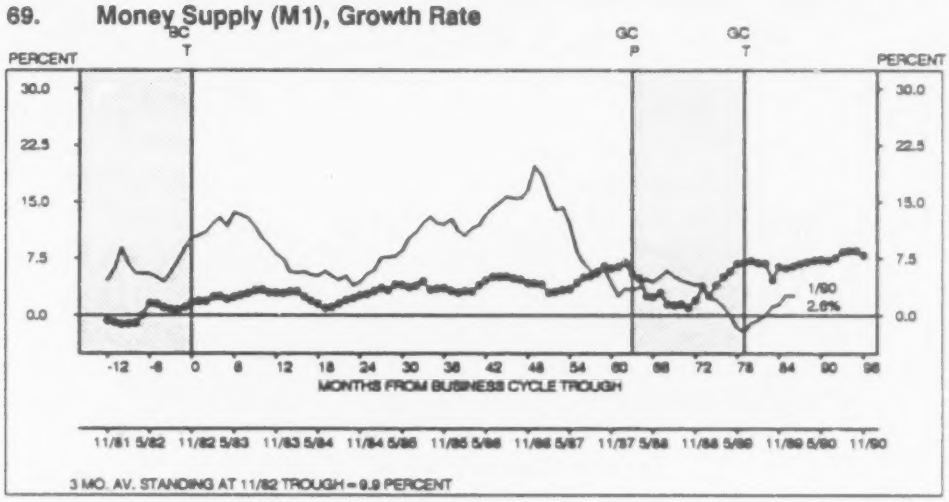
67. Federal Debt, Growth Rate



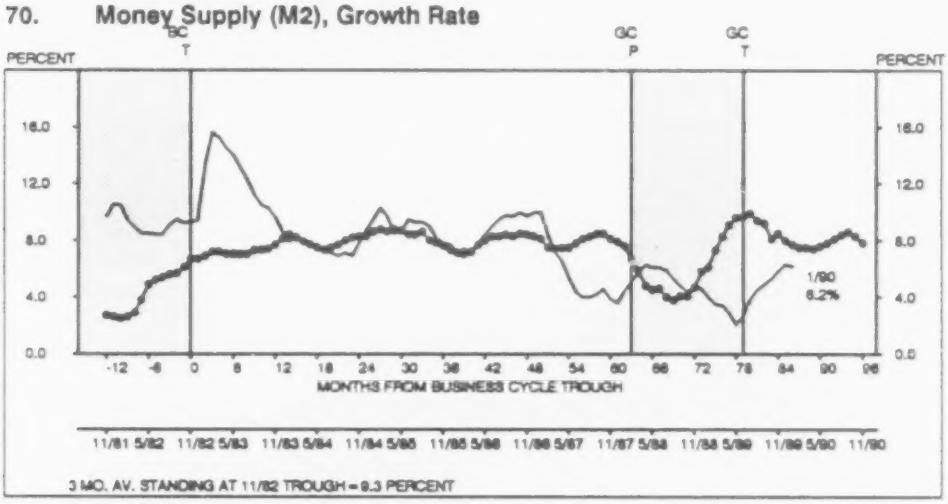
68. Total Debt, Growth Rate



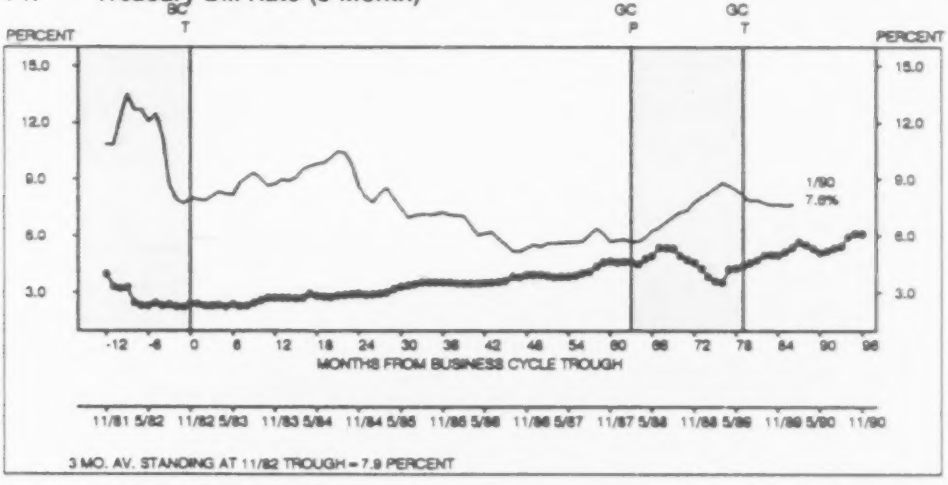
69. Money Supply (M1), Growth Rate



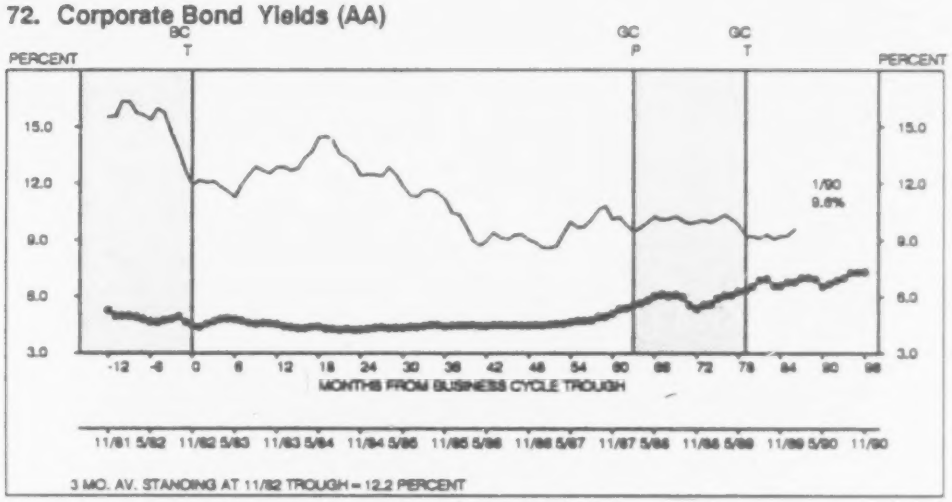
70. Money Supply (M2), Growth Rate



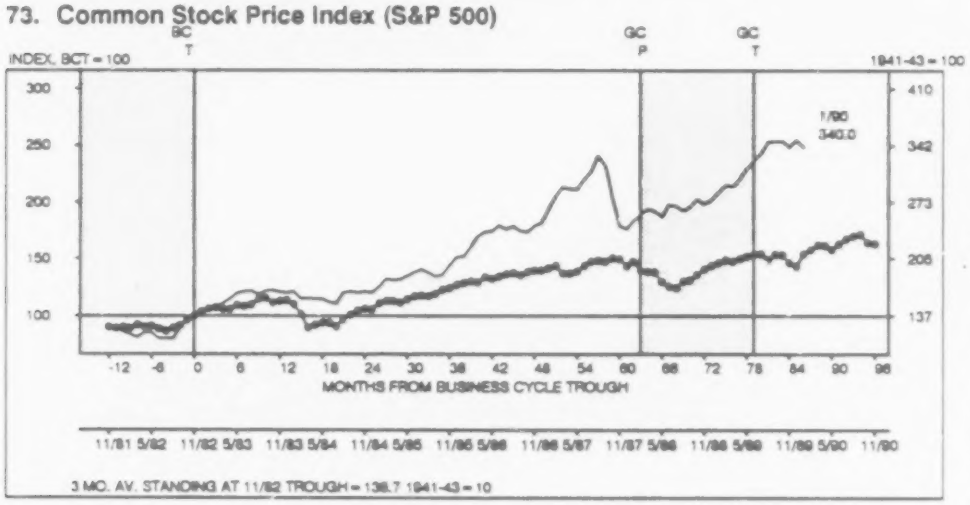
71. Treasury Bill Rate (3-Month)



72. Corporate Bond Yields (AA)



73. Common Stock Price Index (S&P 500)



In February, stock prices dropped to 330.4.

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The series numbers of indicators that are reported in Business Conditions Digest are noted above. Readers may wish to consult the 1984 *Handbook of Cyclical Indicators* for further information on particular time series. The letter symbols L, C, Lg and U identify the timing classification of the series with respect to business cycles, as shown in Business Conditions Digest. L = leading, C = coincident, Lg = lagging, and U = unclassified because of inconsistency in timing. The three letters in parentheses refer to peaks, to troughs, and to peaks and troughs, respectively. When the series we use is similar to but not identical with the BCD series, the BCD classification has been used. In the case of growth rates, we show the classification only where a similar growth rate for the same or similar series is classified in BCD.

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Center for International Business Cycle Research
Uris Hall, Columbia University
New York, NY 10027
Telephone: (212) 280-2916

ABOUT THIS REPORT

Recession-Recovery Watch is a quarterly report designed to analyze current business cycle trends in terms of previous recession or recovery patterns in the United States.

This report was begun in August 1979, under the direction of Dr. Geoffrey H. Moore, following the methodology for measuring recessions developed at the National Bureau of Economic Research. Although no forecasts are made, the materials in this report do permit glimpses into the future: first, by analyzing the behavior of various leading indicators; second, by indicating what is likely to happen in terms of what did happen in previous recessions and recoveries.

The leading indicators used in this report are relevant to future output and employment because they represent actions taken, like the placing of orders, that will result in future output, or because they reflect factors, like profits, that influence future decisions on output. The record of what happens during the latter stages of business cycles is relevant because of the family resemblance among successive cycles, a resemblance that has its origin in the processes by which business cycles are generated. Every business cycle has its own surprises, partly because of policy actions taken, but many developments are not surprising, having occurred many times before. The historical comparisons contained in this report help one anticipate what is typical and distinguish it from the unusual.

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RECESSION-RECOVERY WATCH...

A Quarterly Report Designed to Assist in the Evaluation of Current Business Conditions

Published by the Center for International Business Cycle Research,
Columbia Business School, Columbia University, New York, NY 10027

Dr. Geoffrey H. Moore
Director

Vol.12, No. 2
May 1990

Summary

The economic slowdown that began in February 1989 has continued. The leading employment index is hinting that an end may be around the corner, but the other leaders are more equivocal. However, one method of foretelling how long slowdowns may last, which is backed by more than a century of experience with movements in long-term interest rates, suggests that the slowdown may end this summer. Meanwhile, the leading inflation index has moved up a bit from its recent low, though not enough to reverse the downswing signal that it issued in September 1988.

How Long Will the Slowdown Last?

The peak of the latest growth cycle in the U.S. economy, according to our estimates, was reached in February 1989. At that time, economic growth fell below the long-run trend rate, which in terms of real GNP is 2.7% per year. Analysis of monthly data on production, employment, real income and trade showed that the consensus among these measures pointed to February 1989 as the date beyond which growth was below trend. Figures now available through April 1990 suggest that slow growth has persisted, so the slowdown has lasted at least a year. How much longer has it to go?

The United States has experienced eleven slowdowns of the type defined above since 1948. Seven of them turned into recessions, where the level of economic activity declined, while

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in four instances (1951, 1962, 1966, 1984) growth rates merely slowed and faster growth followed. The average length of the eleven slowdowns was 22 months. Those that became recessions lasted 21 months, on average (including the recession periods) while the others had an average duration of 23 months. The shortest among the eleven, in 1960-61, was 12 months while the longest, in 1978-82, persisted for 48 months.

One of the clues to the length of these slowdowns is provided by interest rates. Back in 1967 Professor Phillip Cagan of the Columbia Economics Department showed in a study for the National Bureau of Economic Research that the length of the lag in bond yields after turns in the business cycle was associated with the length of the cycle phase in which the lag occurred.* That is, recessions lasted longer when the downturn in yields occurred a long time after the recession began. He attributed this to the effect of the decline in yields on decisions to increase capital investment. A similar relationship prevailed during business cycle expansions, which lasted longer when the upturn in bond yields came a long time after the upturn in business. The longer the delay in the depressing effect of the rise in interest rates on investment, the longer the expansion lasted. Cagan found that this relationship had persisted from 1857 to 1960.

In the April 1986 issue of *Recession-Recovery Watch* we brought the record on this point up to date. We found that the phenomenon could still be observed in the 1960's and the 1970's, and was indicating that the business cycle expansion that began in November 1982 would be a long one. It has certainly proved to be that. What we did not do in 1986 was to look at the record of slowdowns, as identified by growth cycle peaks and troughs. We do that here.

Chart A and Table A show the relation between the length of the slowdowns in the growth cycle and the length of the lags in bond yields. Slowdowns stopped sooner when the downturn in bond yields came shortly after the slowdown started than when the downturn in yields was delayed. The correlation is by no means perfect. Many other things can make slowdowns short or long. But the relationship is statistically significant, it is consistent with the earlier history that Cagan studied, and it makes economic sense.

In the current slowdown, which began in February 1989, the downturn in bond yields came in March, a lag of only one month. Using the relationship based upon the data in Table A we would expect that the slowdown would last for about 16 months, or until June 1990. This assumes, of course, that the recent upward pressure on interest rates does not push bond yields above where they were in March 1989, namely 10.33%, which would make the downturn since then a false signal. As of this writing yields have moved up from their low last October (9.04%) but are still below 10%.

If the slowdown really were to end this summer, we should be seeing upturns in the growth rates of the leading indexes (Charts B-D). One such upturn appeared in the leading employment index for May. The long-leading index, however, has sagged this spring, and the short-leading index growth rate has been hovering around zero, at least through April. The leading inflation index (Chart E) has moved up recently, as it usually does toward the end of slowdowns, but not enough to signal an upswing in inflation. So far, then, it's a mixed bag.

* Phillip Cagan, The Influence of Interest Rates on the Duration of Business Cycles, *Essays on Interest Rates*, ed. Jack M. Guttentag and Phillip Cagan, National Bureau of Economic Research and Columbia University Press, 1969.

LENGTH OF ECONOMIC SLOWDOWNS AND LAG OF CORPORATE BOND YIELDS, 1948-89

CHART A

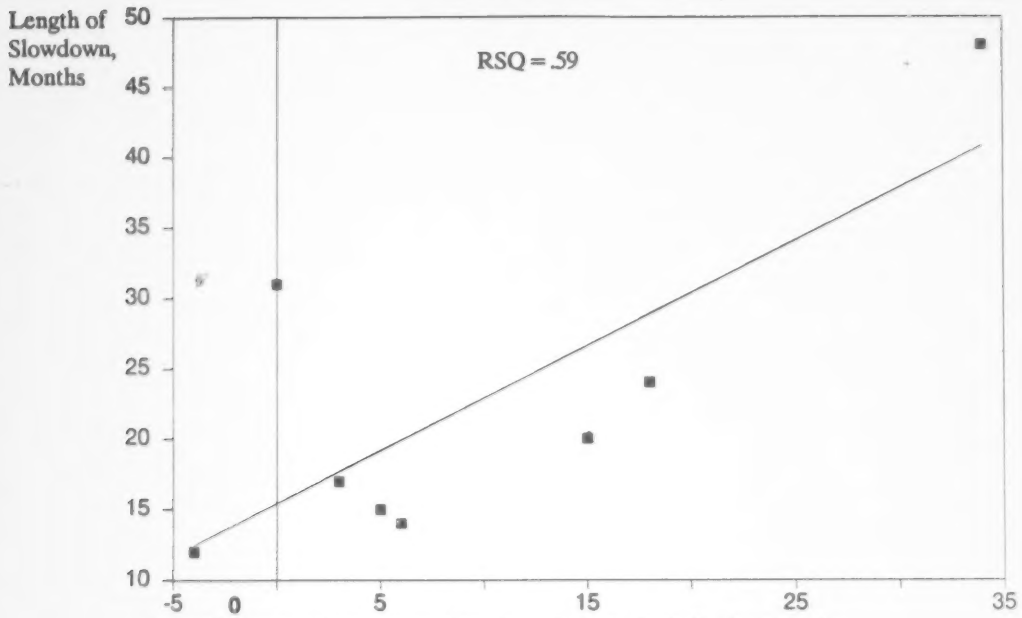


TABLE A.

Slowdown Dates Peak	Trough	Length of Slowdown, in months	Lead(-) or Lag(+) of Bond Yields at Peak
A. Slowdowns that Did Not Become Recessions			
3/51	7/52	16	n.m.
5/62	10/64	29	n.m.
6/66	10/67	16	n.m.
6/84	1/87	31	0
B. Slowdowns that Became Recessions			
7/48	10/49	15	+5
3/53	8/54	17	+3
2/57	4/58	14	+6
2/60	2/61	12	-4
3/69	11/70	20	+15
3/73	3/75	24	+18
12/78	12/82	48	+34
C. Current Slowdown			
2/89	n.a.	n.a.	+1

n.m. = no matching turn in yields.
n.a. = Nor available.

Center for International Business Cycle Research, May 1990.

Chart B.
Leading Employment Index Growth Rates Before and After Growth Cycle Peaks

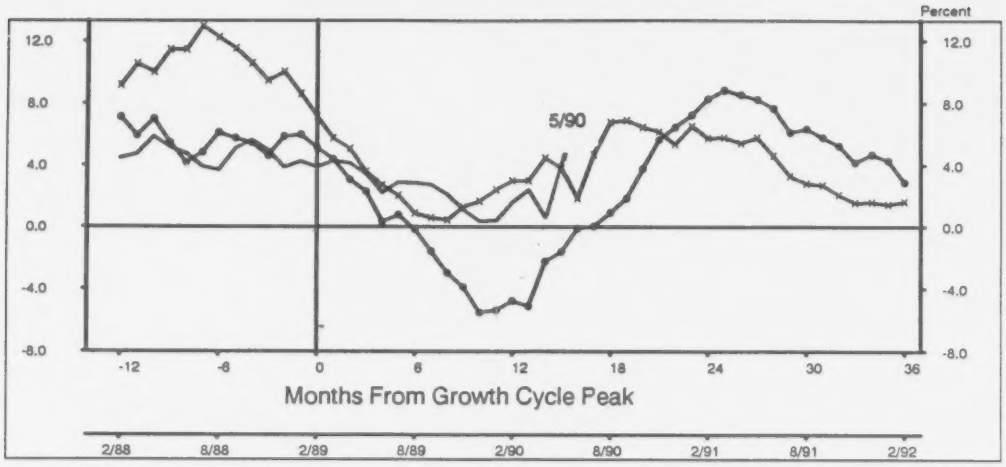
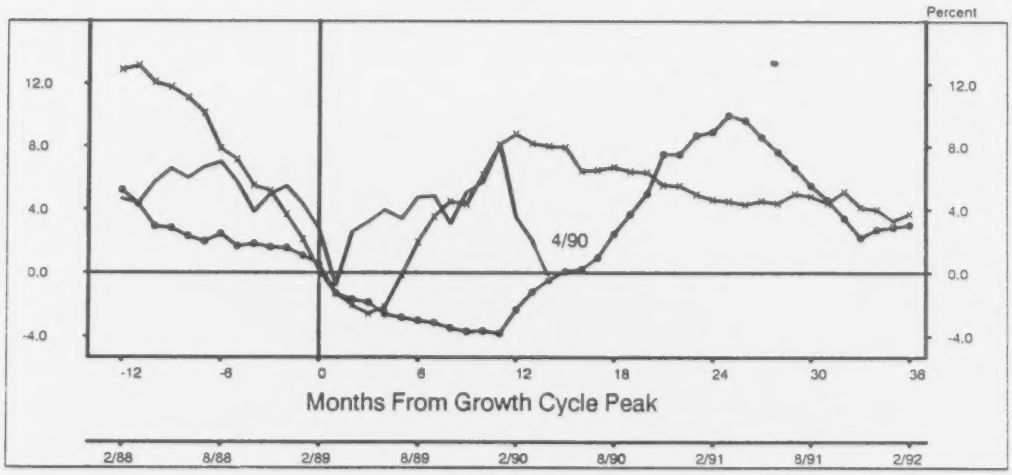


Chart C.
Long-Leading Index Growth Rates Before and After Growth Cycle Peaks



Four Slowdowns *Not Followed by Recession.*

Seven Slowdowns Followed by Recession.

Current Slowdown.

Chart D.
Short-Leading Index Growth Rates Before and After Growth Cycle Peaks

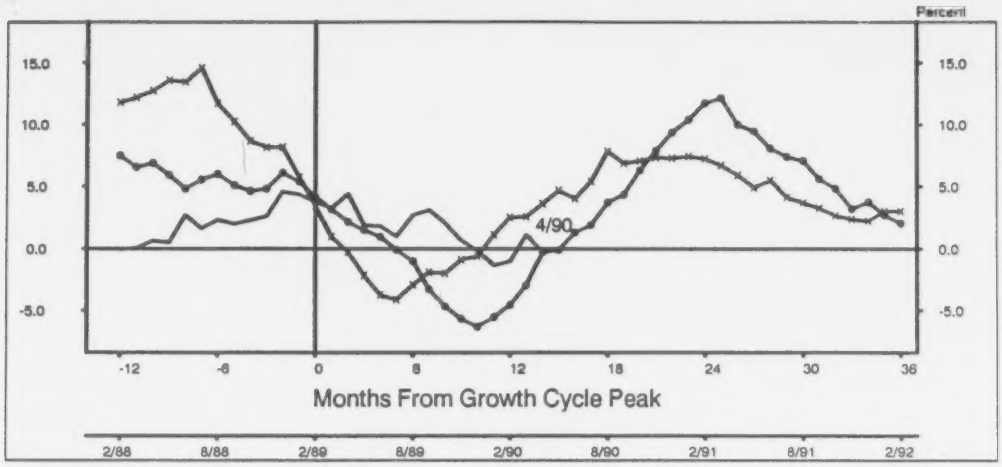
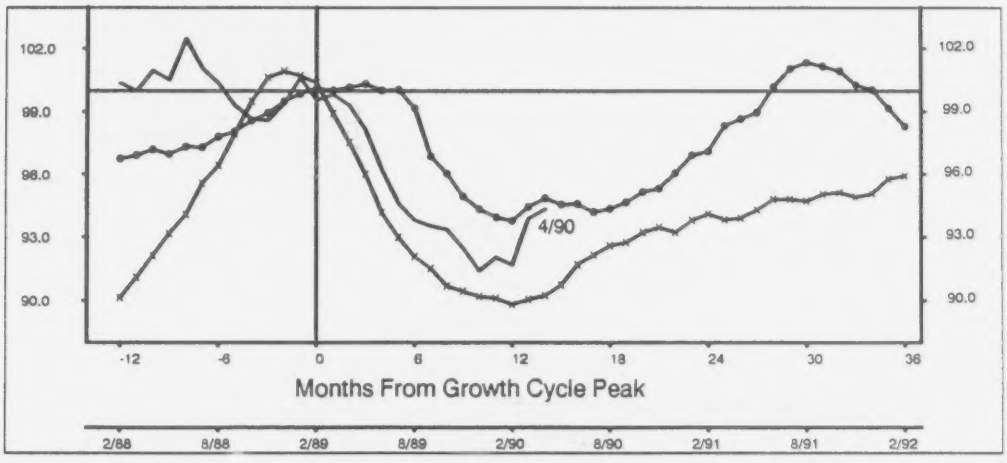


Chart E.
Leading Inflation Index Before and After Growth Cycle Peaks

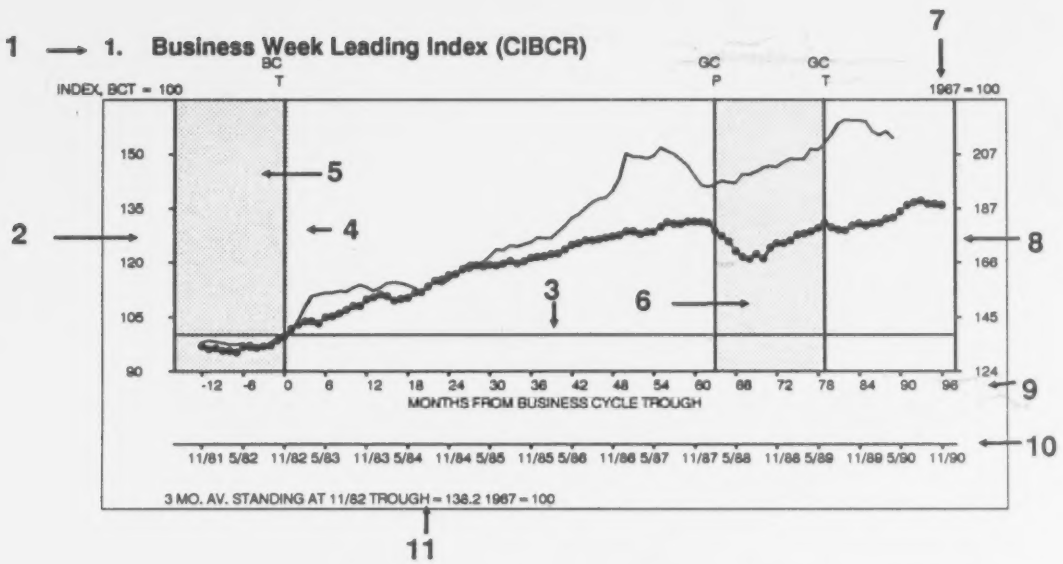


Four Slowdowns *Not Followed by Recession.*

Seven Slowdowns Followed by Recession.

Current Slowdown.

HOW TO READ ACTUAL LEVEL CHARTS



1 CHART NUMBER AND TITLE: If the title does not say "growth rate," then the chart is for the actual level rather than for the growth rate.

2 LEFT-HAND SCALE measures movements in both current and past expansion, as a percentage of business cycle trough standings. This is the common vertical scale along which the expansions are compared.

3 HORIZONTAL LINE shows levels at reference trough (100) for current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansion, which are all aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT) represents the 1966-67 growth recession.

7 UNITS for right-hand scale refer only to the current expansion.

8 RIGHT-HAND SCALE refers only to the current expansion. It is a transformation of the left-hand scale to show the current expansion in original units rather than with trough standing at 100.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both the current and past expansions. This is the common time scale along which the expansions are compared.

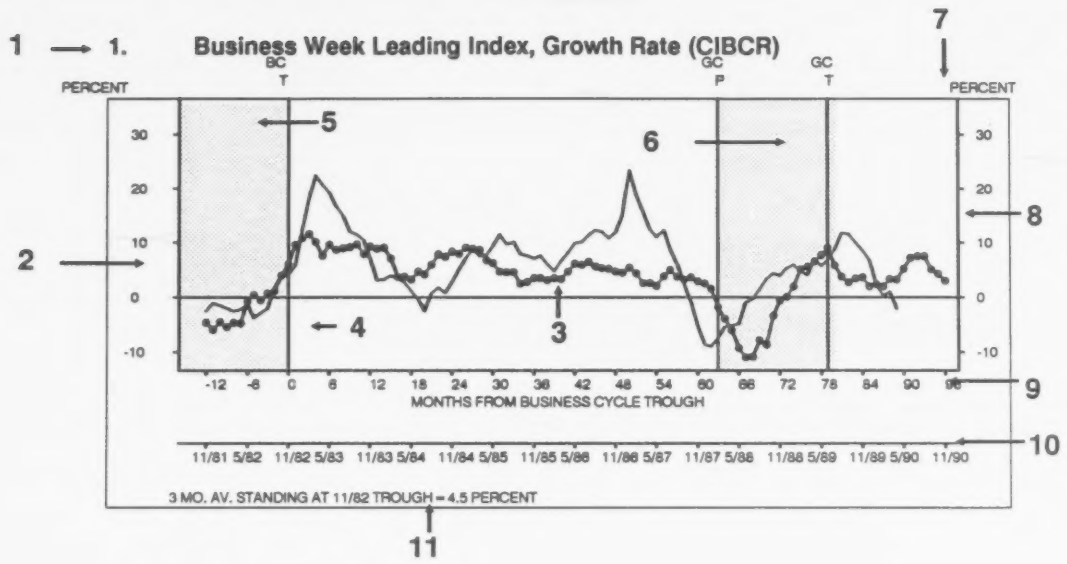
10 ACTUAL DATES refer only to the current expansion.

11 STANDING AT THE TROUGH is the level at which the current expansion began, and is calculated as the 3-month average centered on the trough month.

oooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

———— SOLID LINE indicates the current expansion, which began in November 1982, or Q4, 1982.

HOW TO READ GROWTH RATE CHARTS



1 CHART NUMBER AND TITLE: If the title says "growth rate," then the chart is for the 6-month smoothed growth rate, rather than the actual level. These growth rates are obtained by dividing the current month's figure by the average for the 12 preceding months, and expressing the result as a compound annual rate.

2 LEFT-HAND SCALE (same as the right-hand scale) shows growth rates in percent for both current and past expansions.

3 HORIZONTAL LINE is drawn at 0% growth rate, a natural reference level for both current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansions, which are aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the trough of the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT), represents the 1966-67 growth recession.

7 UNITS for both scales in percent refer to growth rates for both current and past expansions.

8 RIGHT-HAND SCALE (same as left-hand scale) shows growth rates in percent for both current and past expansions.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both current and past expansions. This is the common time scale along which the expansions are compared.

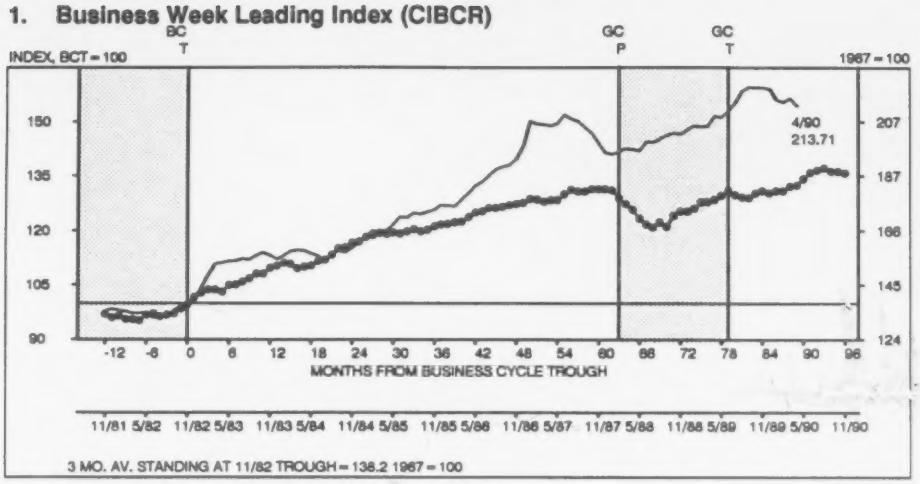
10 ACTUAL DATES refer only to the current expansion.

11 STANDING AT THE TROUGH is the growth rate at the time the current expansion began, and is calculated as the 3- month average centered on the trough month.

oooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

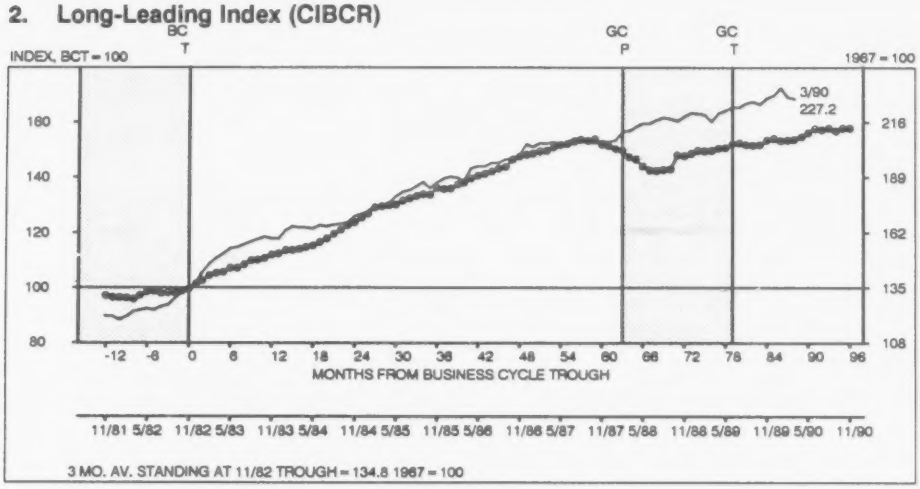
———— SOLID LINE indicates the current expansion, which began in November 1982, or Q4 1982.

1. Business Week Leading Index (CIBCR)



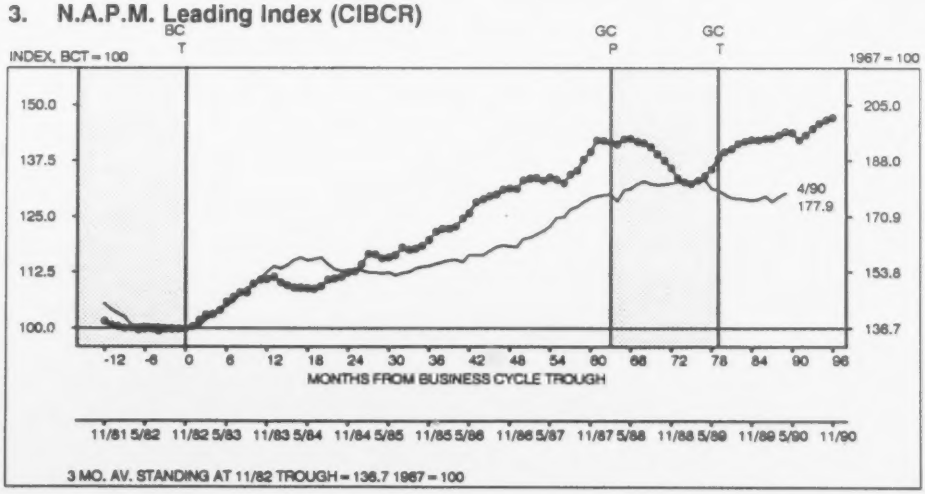
The Business Week Leading Index, like several other leading indexes has been stagnant, indicating a continuation of the slow growth pattern over the next few months ...

2. Long-Leading Index (CIBCR)

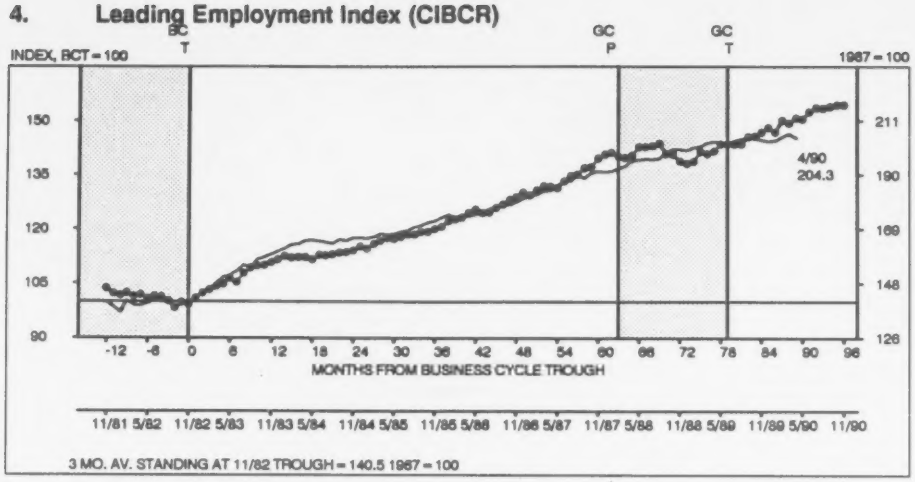


... but the Long-Leading Index finished at 225.7 for April, down for the third straight month. Might this mean a softening economy early next year?

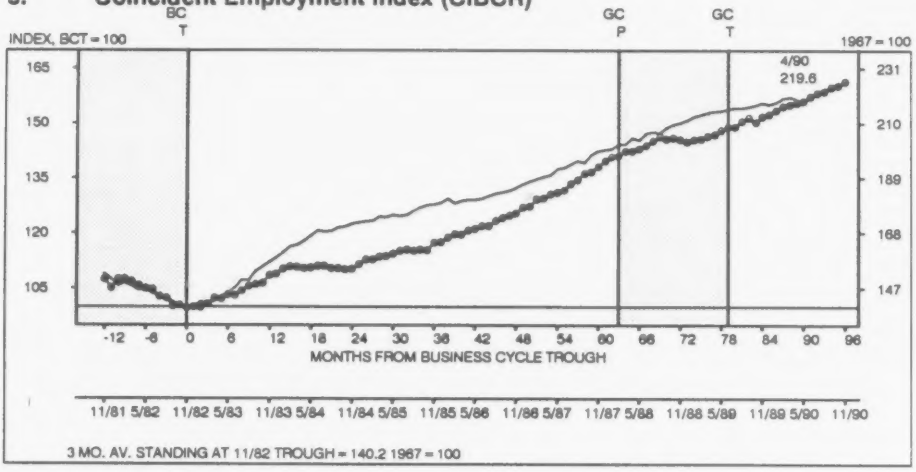
3. N.A.P.M. Leading Index (CIBCR)



4. Leading Employment Index (CIBCR)



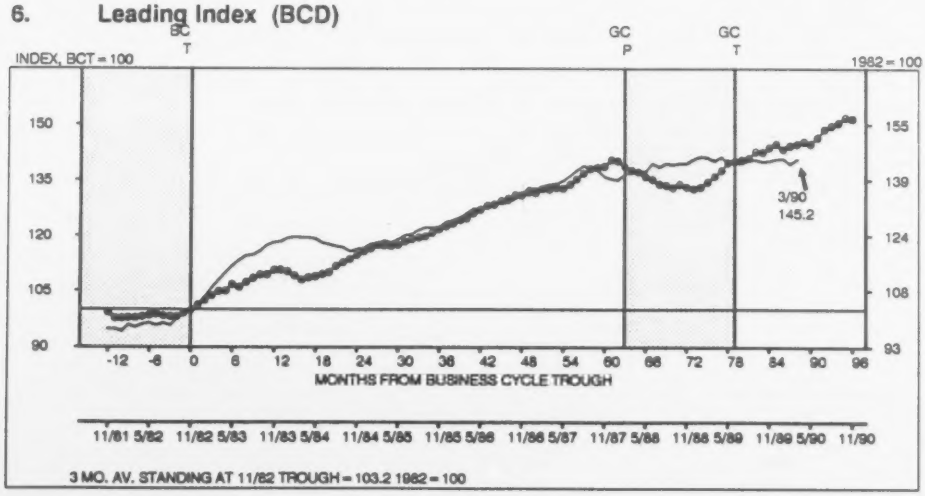
5. Coincident Employment Index (CIBCR)



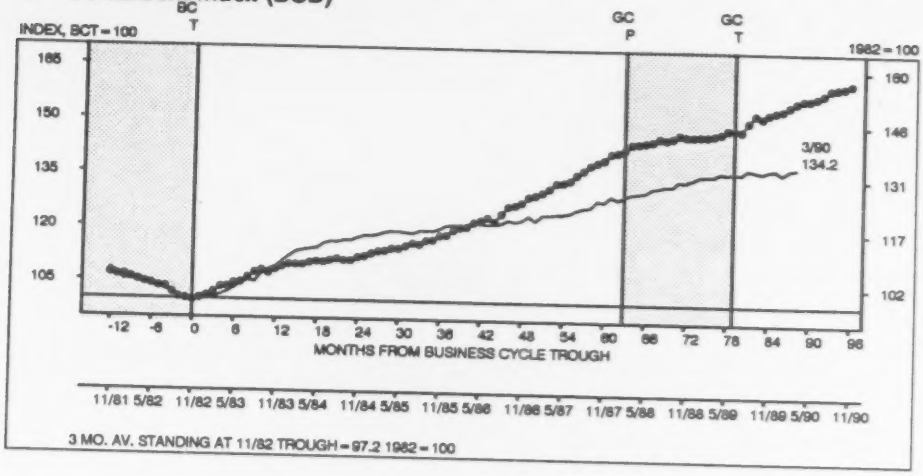
The Leading Employment Index leapt four points to 208.8 in May pointing to the possibility of recovery ...

... from the sluggish employment growth pattern shown by the coincident employment index.

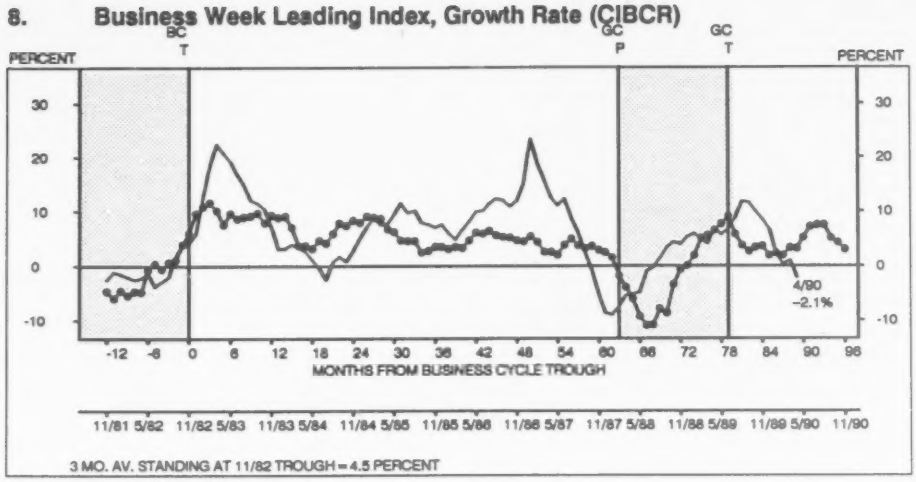
6. Leading Index (BCD)



7. Coincident Index (BCD)

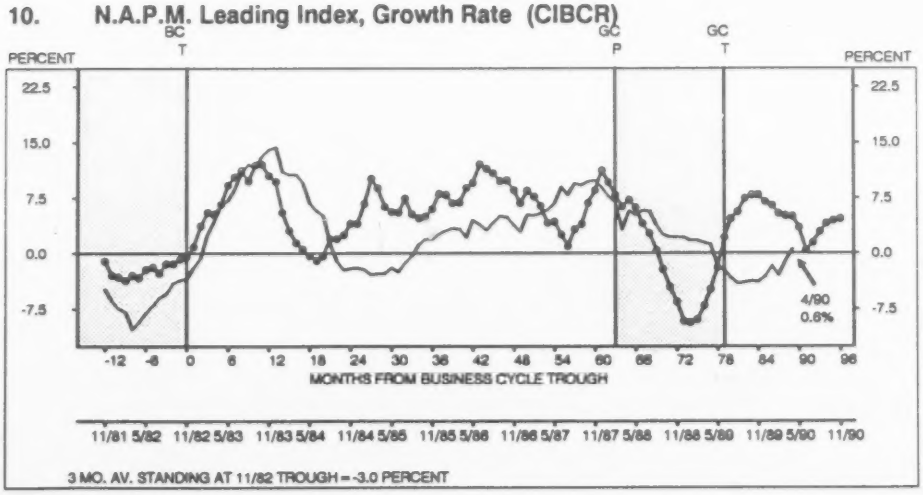


8. Business Week Leading Index, Growth Rate (CIBCR)

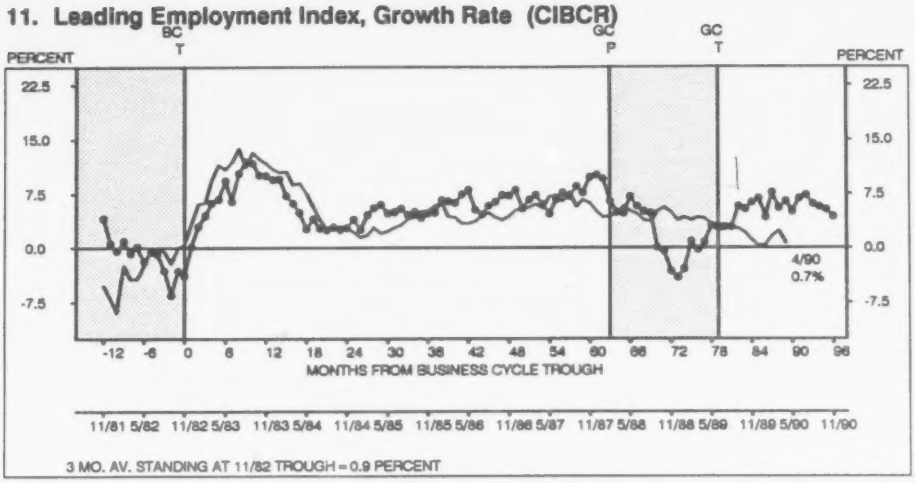


9. Long-Leading Index, Growth Rate (CIBCR)

10. N.A.P.M. Leading Index, Growth Rate (CIBCR)

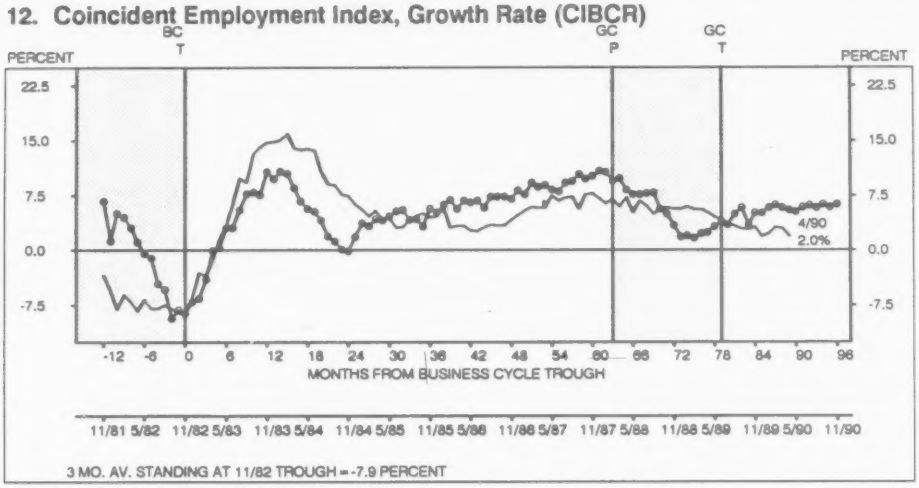


11. Leading Employment Index, Growth Rate (CIBCR)

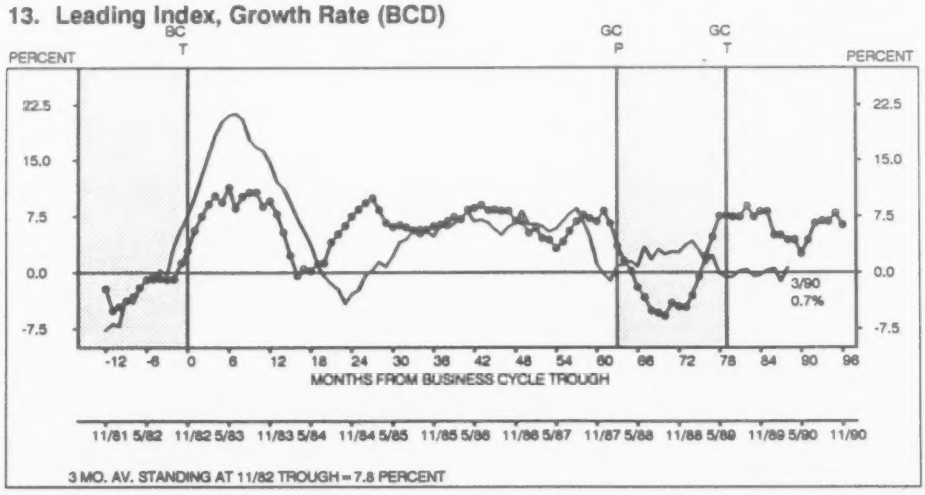


The leading employment index growth rate surged to 4.7% in May, its best showing in a year and half. Is it just a blip?

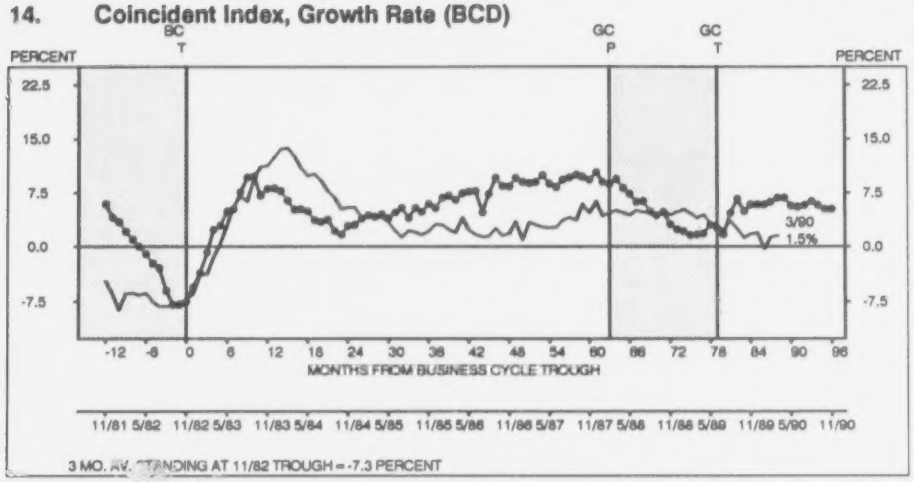
12. Coincident Employment Index, Growth Rate (CIBCR)



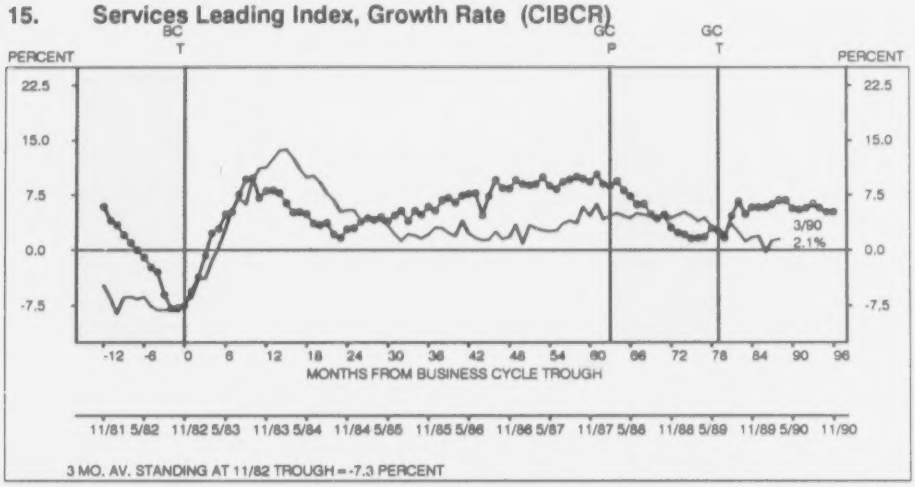
13. Leading Index, Growth Rate (BCD)



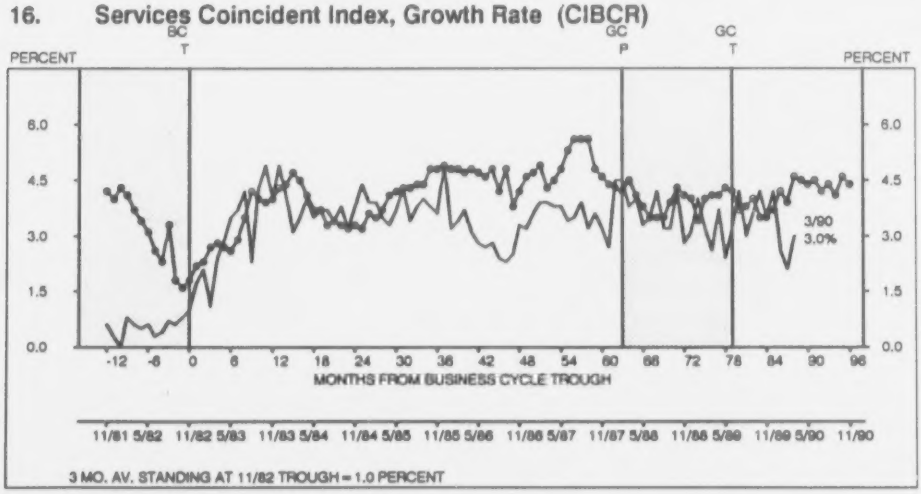
14. Coincident Index, Growth Rate (BCD)



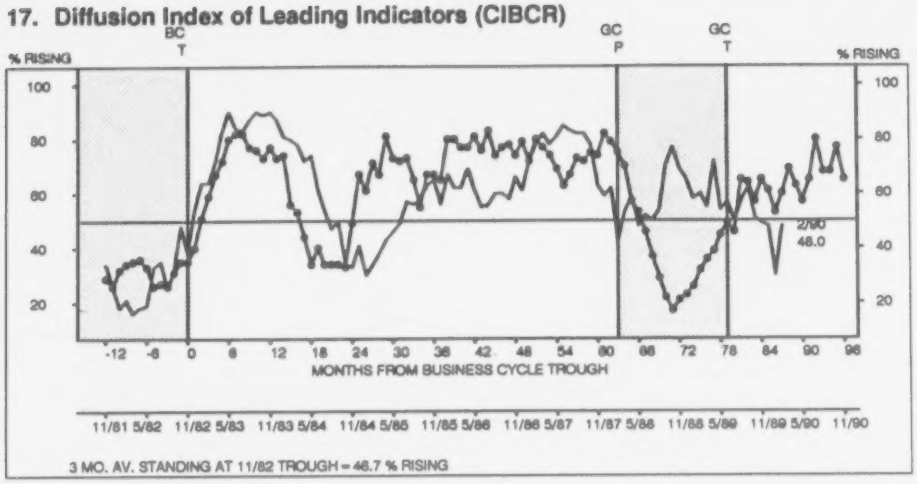
15. Services Leading Index, Growth Rate (CIBCR)



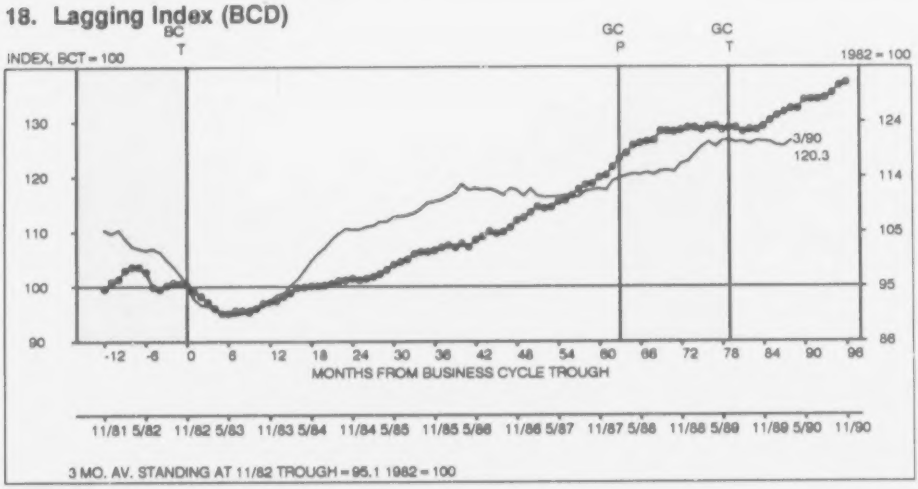
16. Services Coincident Index, Growth Rate (CIBCR)



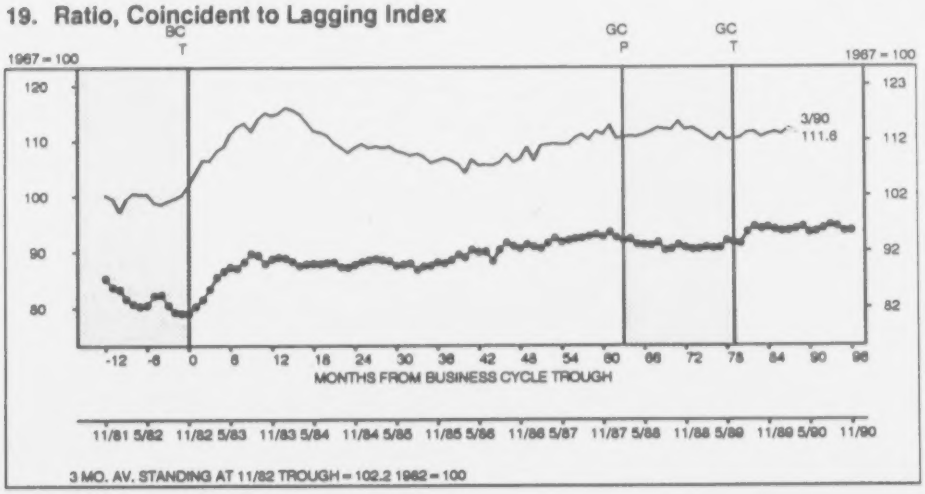
17. Diffusion Index of Leading Indicators (CIBCR)



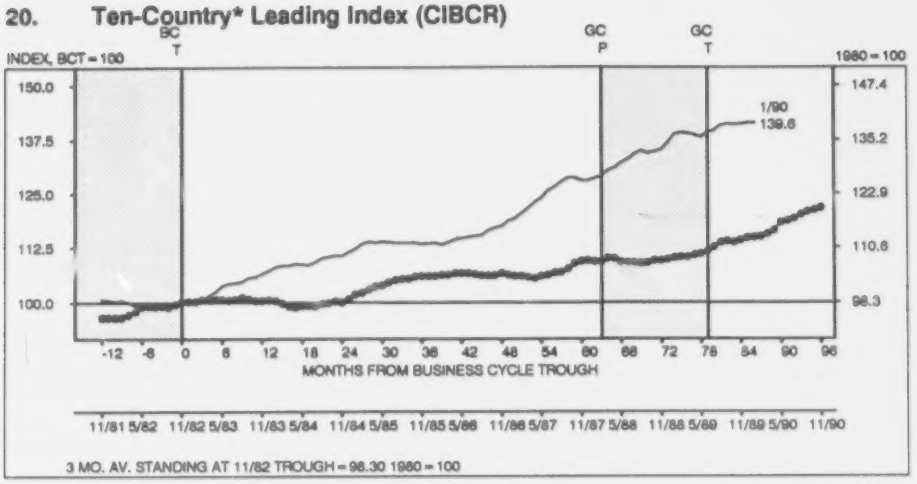
18. Lagging Index (BCD)



19. Ratio, Coincident to Lagging Index



20. Ten-Country* Leading Index (CIBCR)



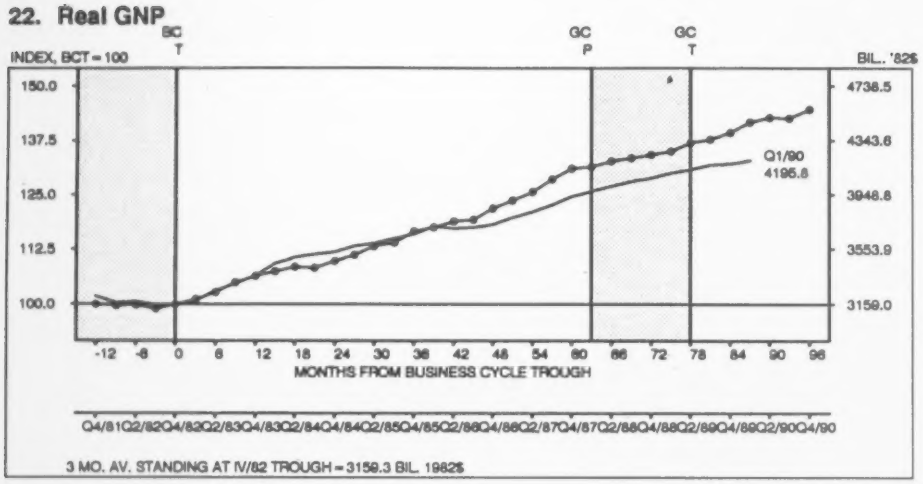
The flattening out of the Ten-Country Leading Index ...

21. Ten-Country* Leading Index, Growth Rate (CIBCR)

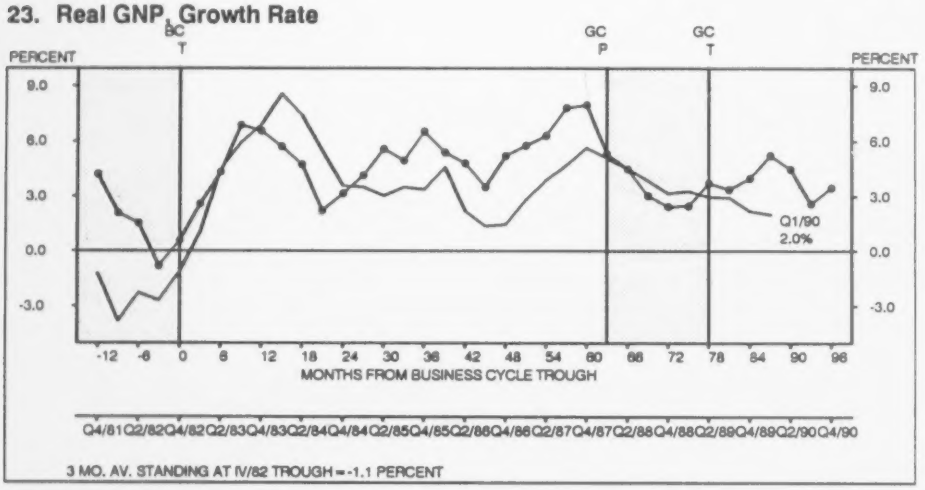
... and its declining growth rate do not bode well for U.S. exports.

*Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, R.O.C., Korea, R.O.K., and New Zealand.

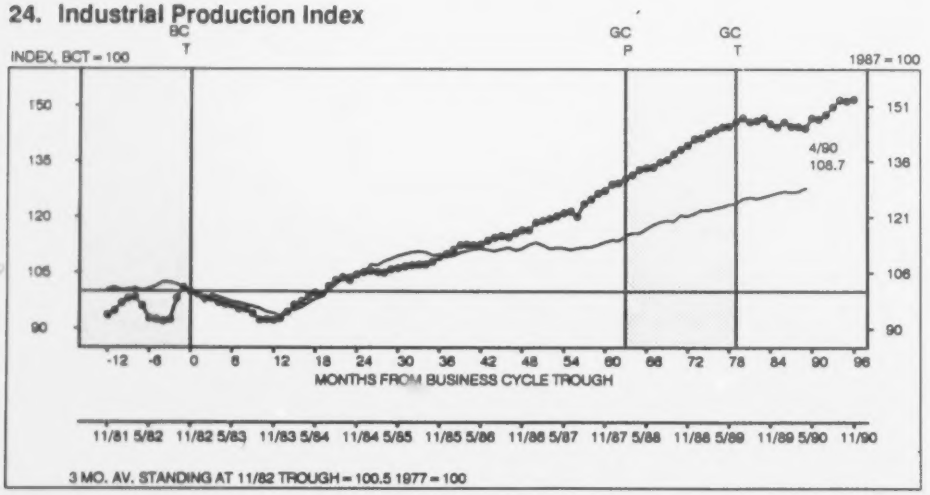
22. Real GNP



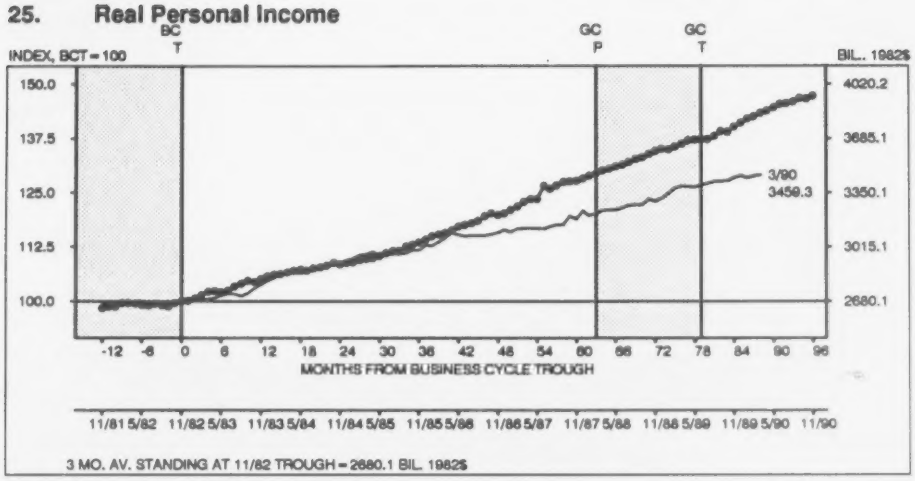
23. Real GNP Growth Rate



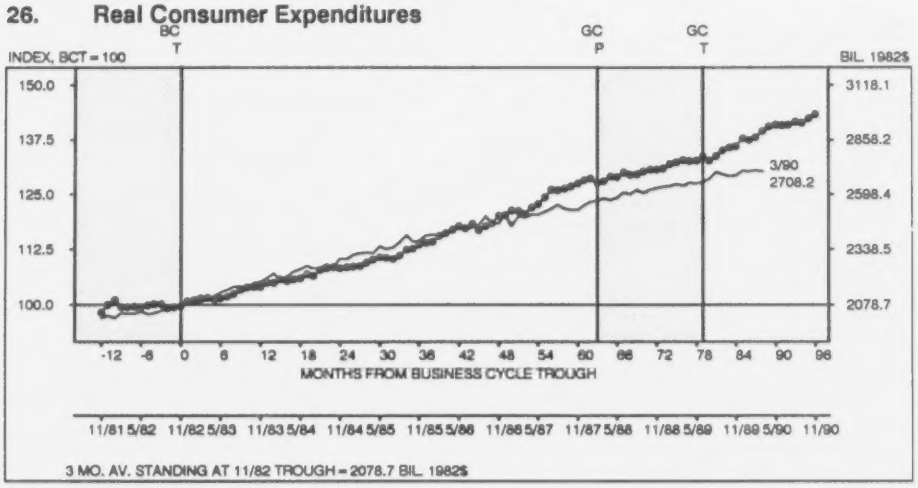
24. Industrial Production Index



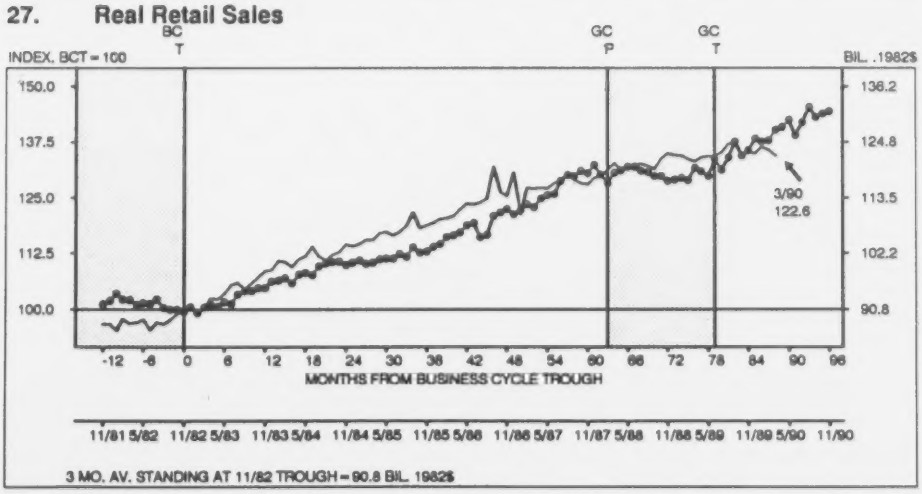
25. Real Personal Income



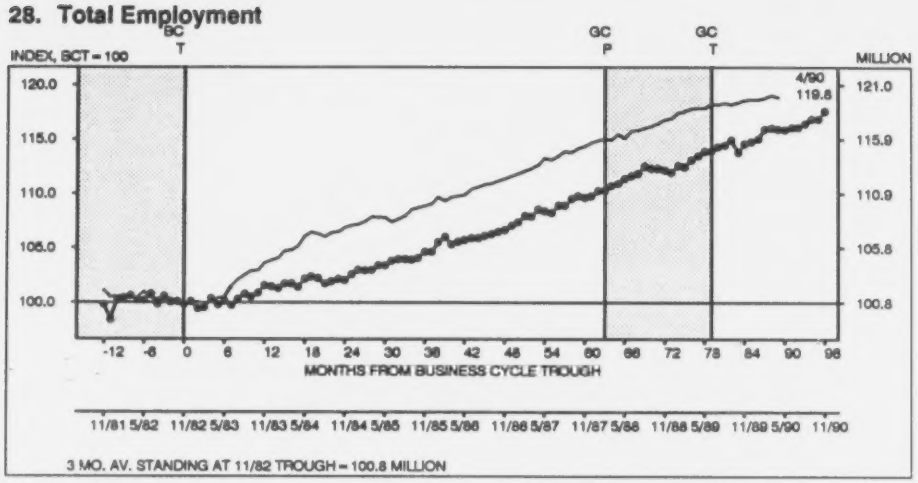
26. Real Consumer Expenditures



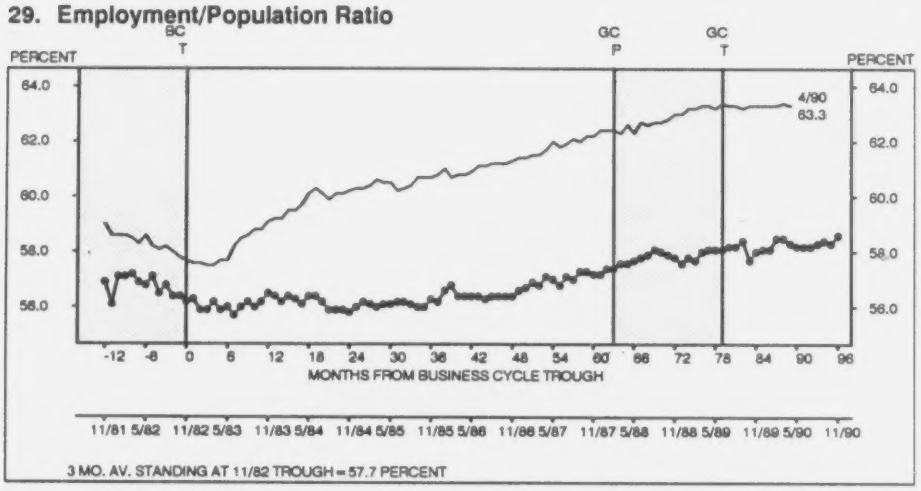
27. Real Retail Sales



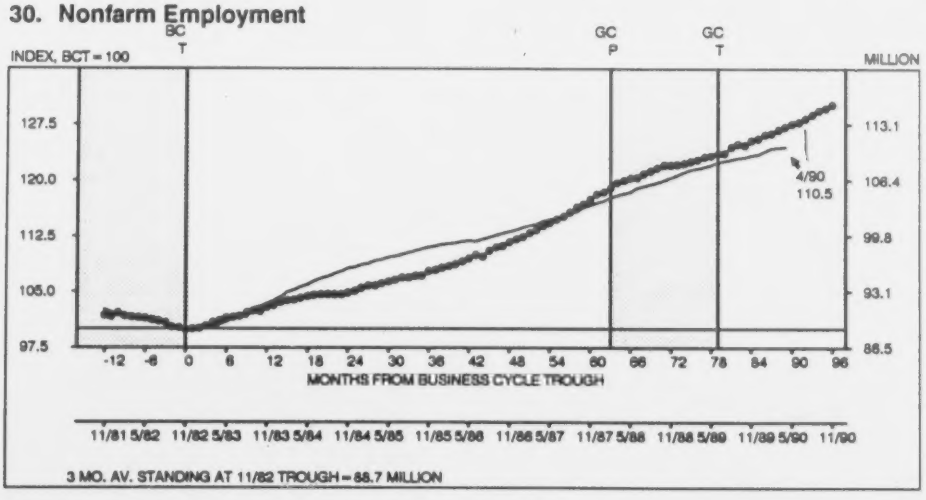
28. Total Employment



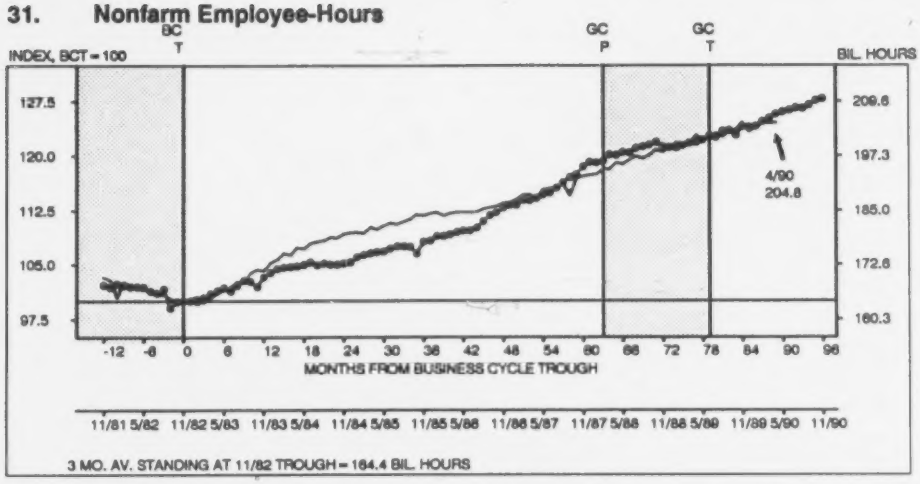
29. Employment/Population Ratio



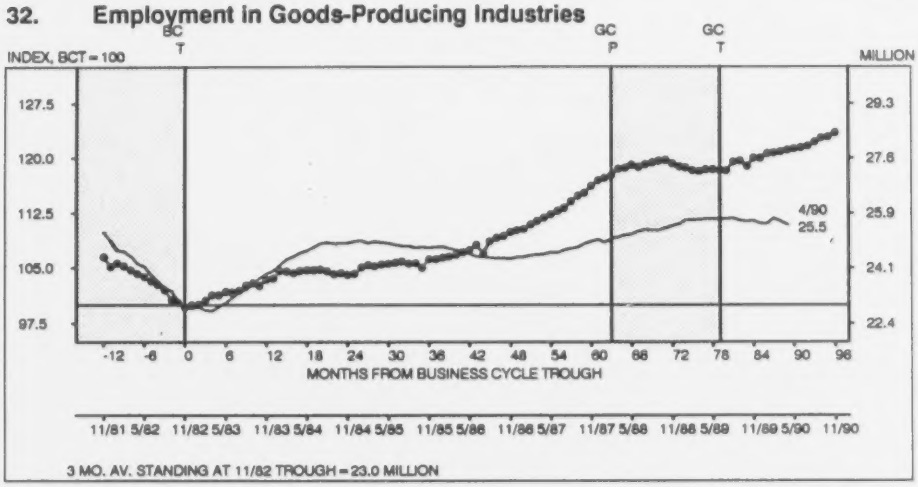
30. Nonfarm Employment



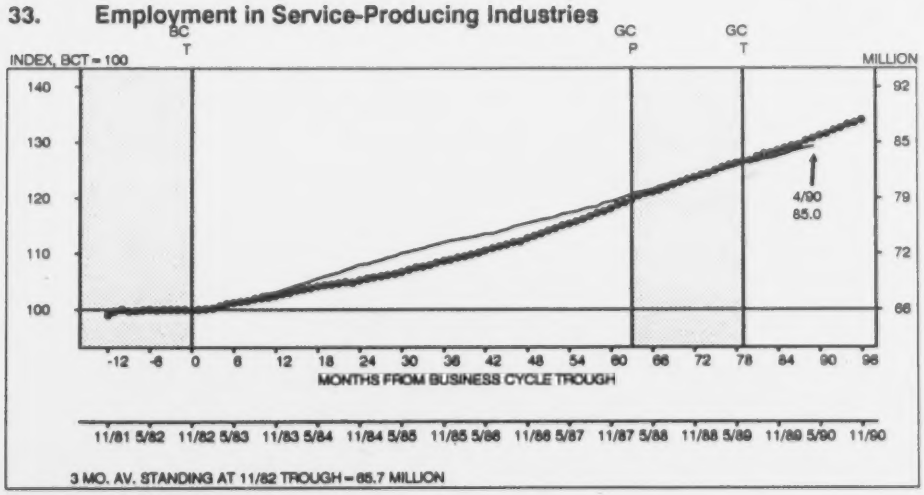
31. Nonfarm Employee-Hours



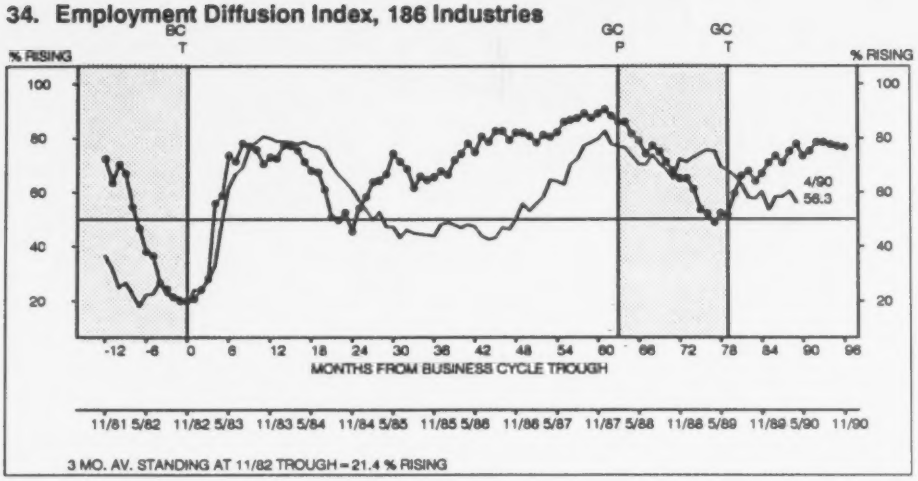
32. Employment in Goods-Producing Industries



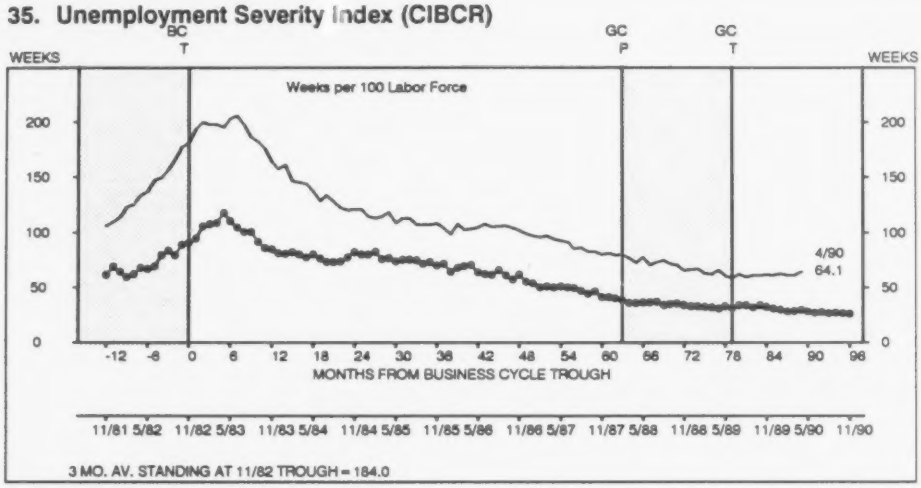
33. Employment in Service-Producing Industries



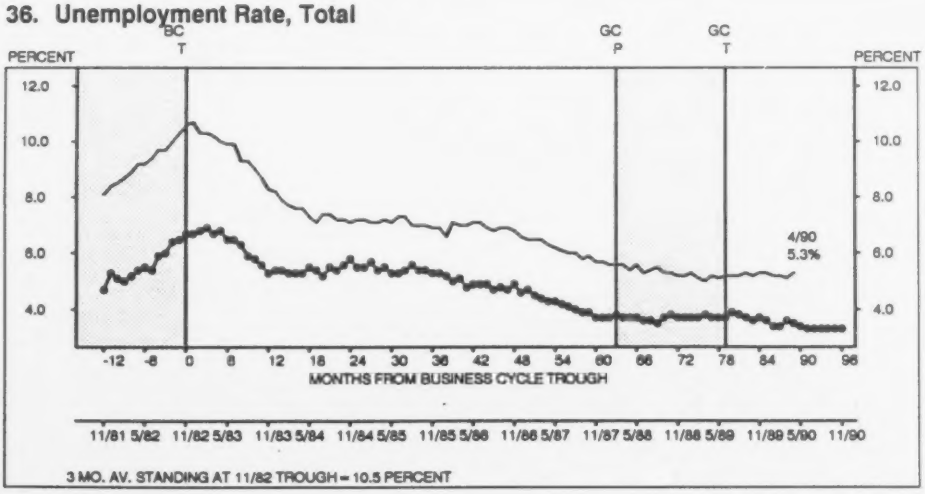
34. Employment Diffusion Index, 186 Industries



35. Unemployment Severity Index (CIBCR)

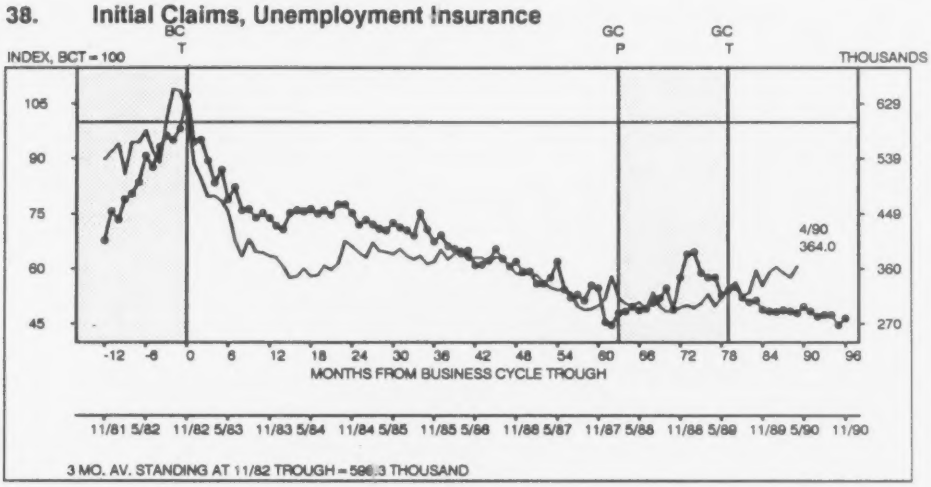


36. Unemployment Rate, Total

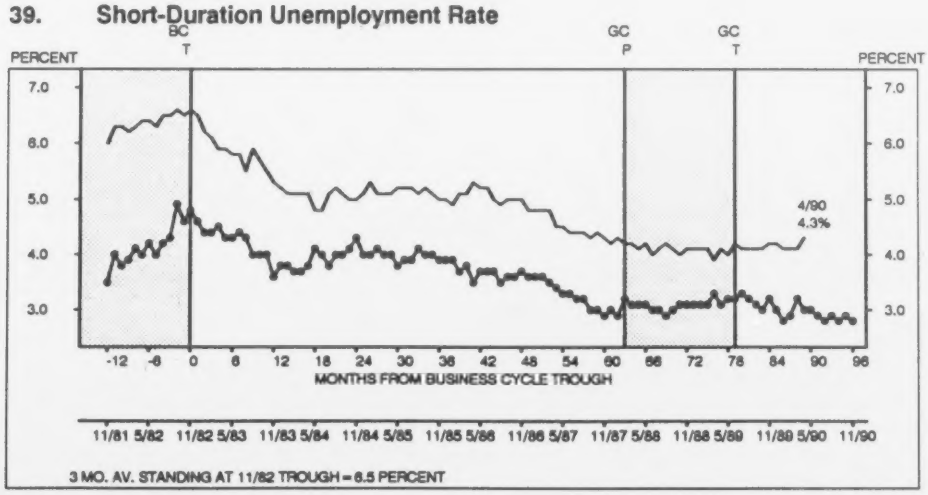


37. Unemployment Rate, Insured

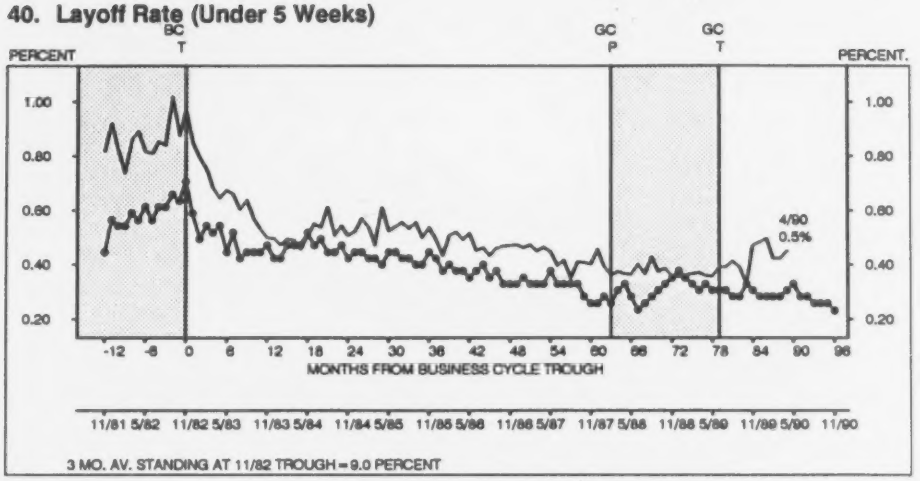
38. Initial Claims, Unemployment Insurance



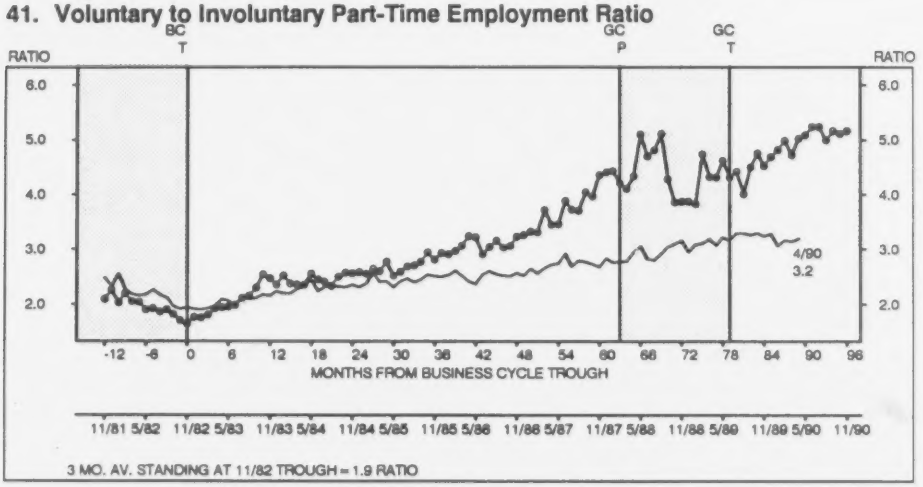
39. Short-Duration Unemployment Rate



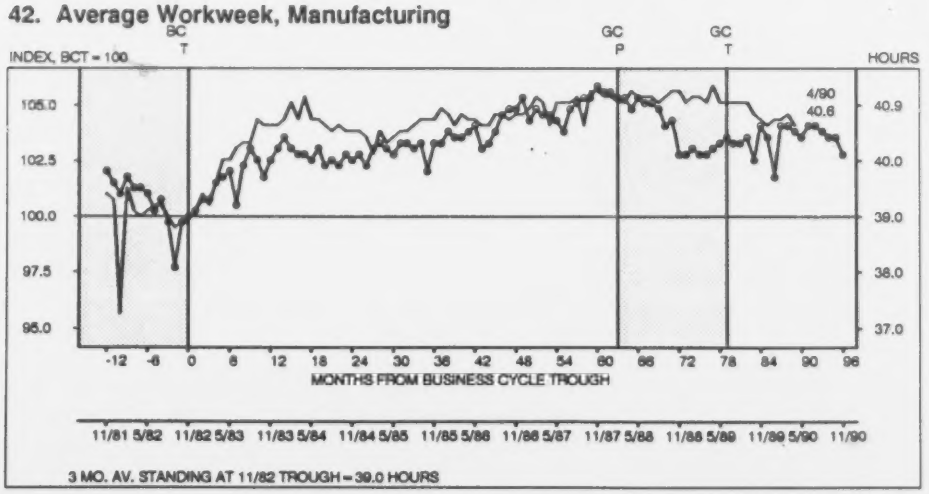
40. Layoff Rate (Under 5 Weeks)



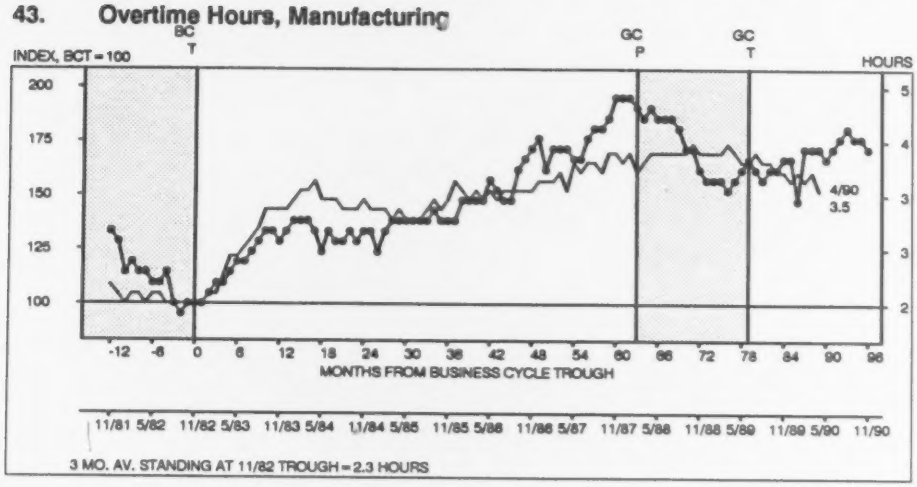
41. Voluntary to Involuntary Part-Time Employment Ratio



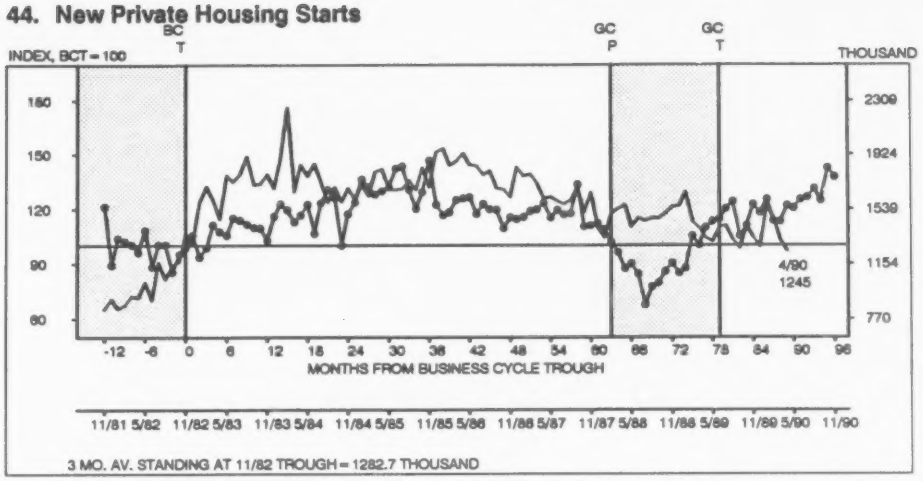
42. Average Workweek, Manufacturing



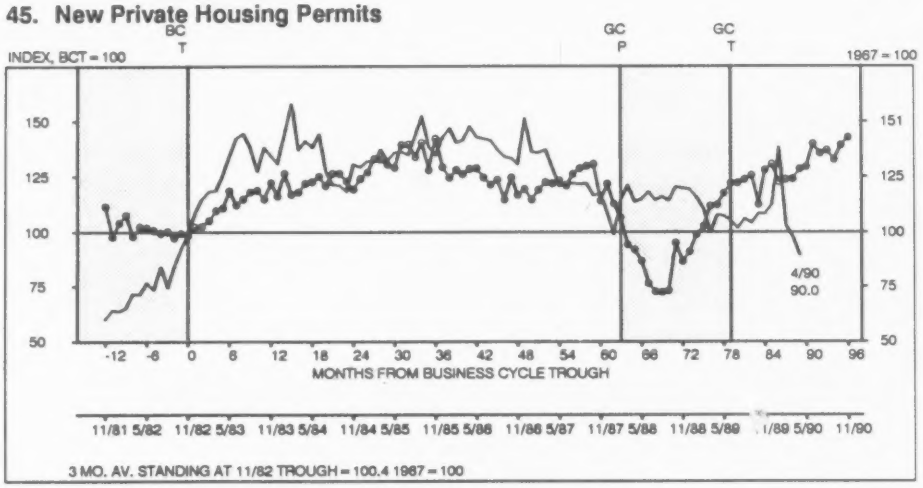
43. Overtime Hours, Manufacturing



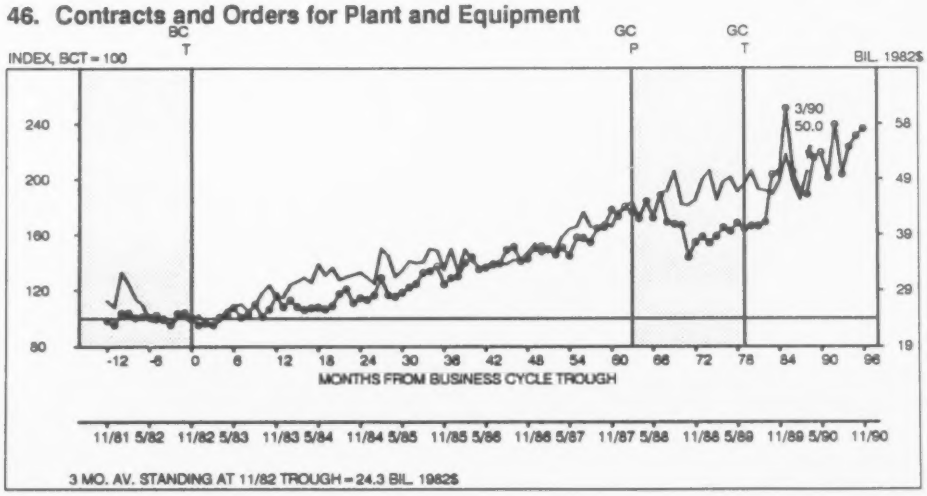
44. New Private Housing Starts



45. New Private Housing Permits



46. Contracts and Orders for Plant and Equipment

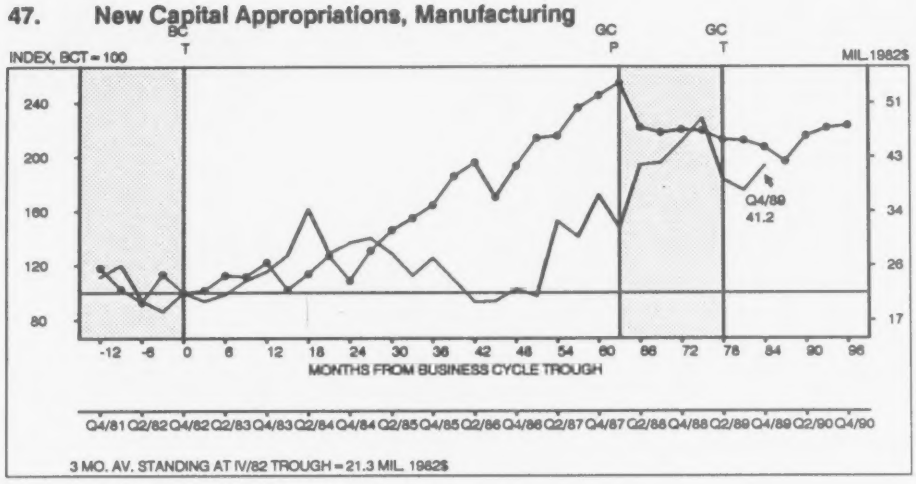


Both Housing starts ...

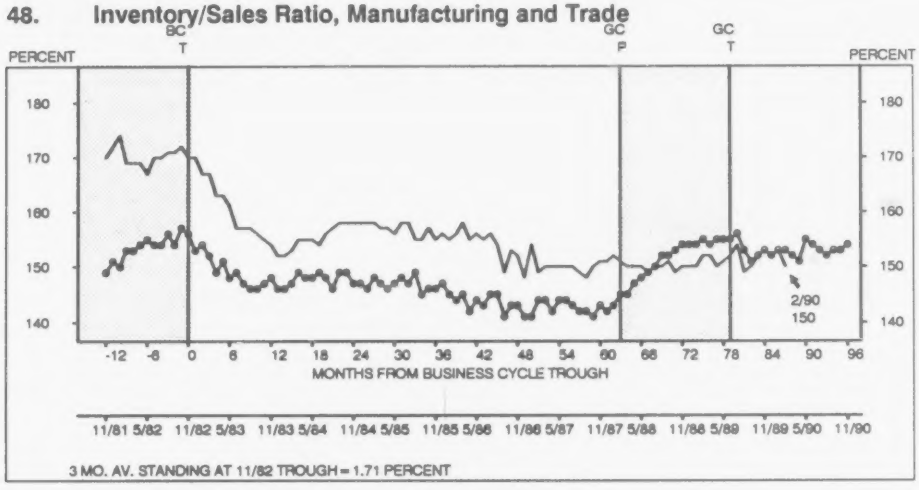
and housing permits are down to levels not seen since the last recession — a sign of possible trouble ahead ...

... but capital investment commitments are still holding up.

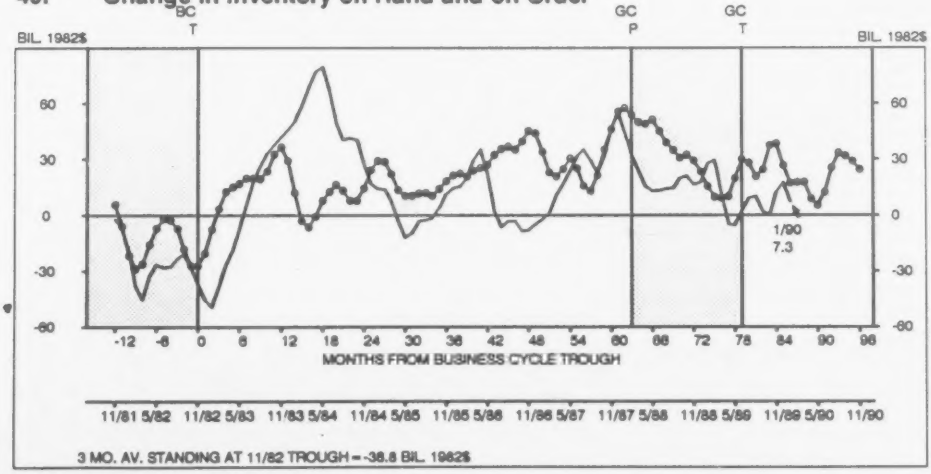
47. New Capital Appropriations, Manufacturing



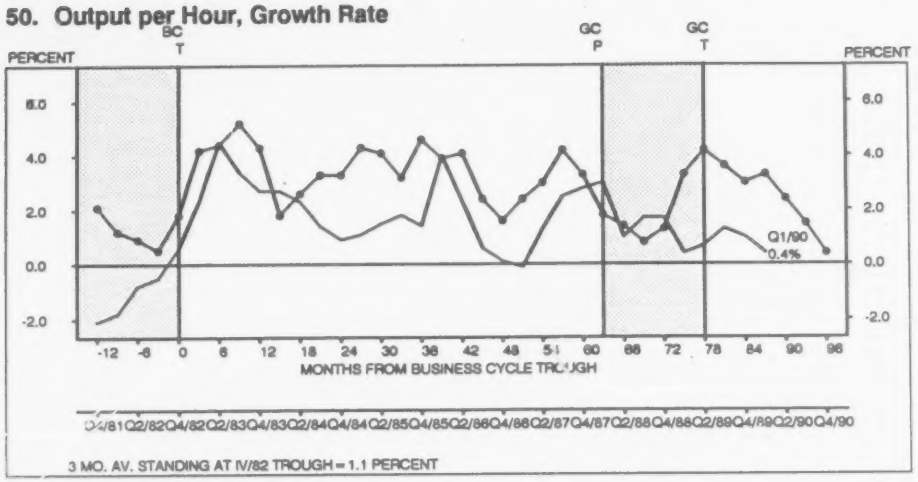
48. Inventory/Sales Ratio, Manufacturing and Trade



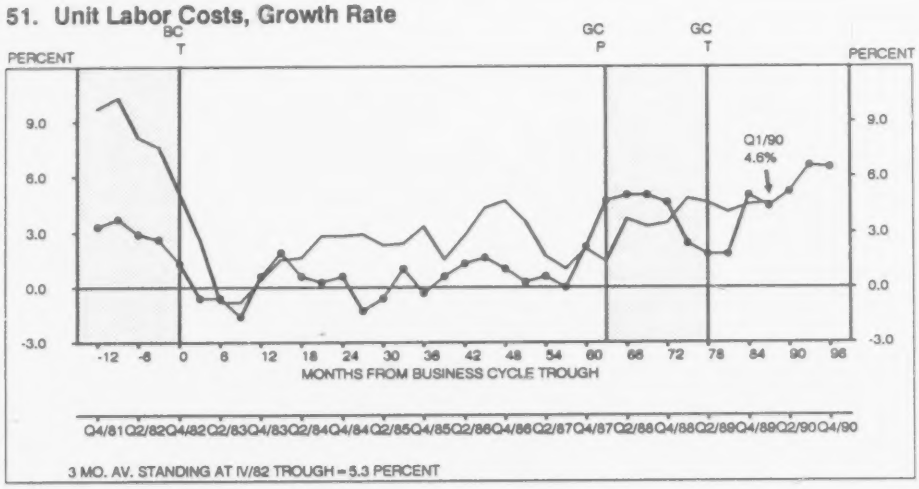
49. Change in Inventory on Hand and on Order



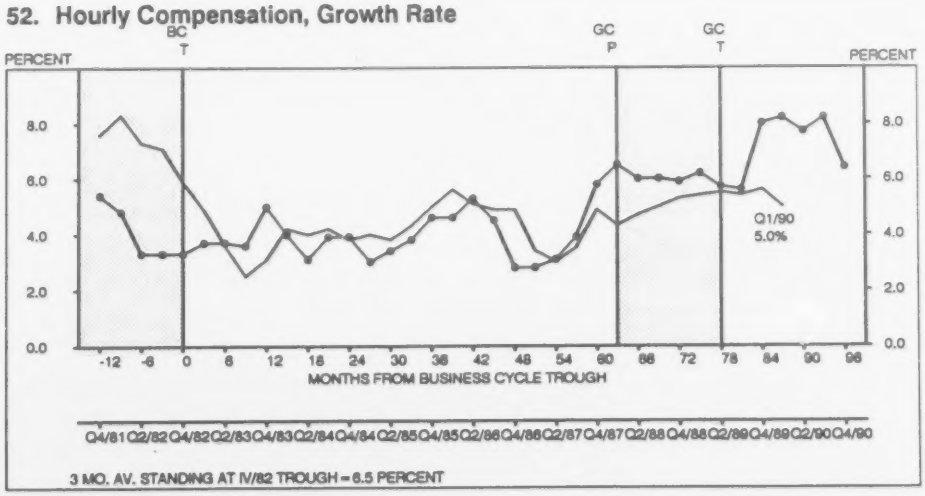
50. Output per Hour, Growth Rate



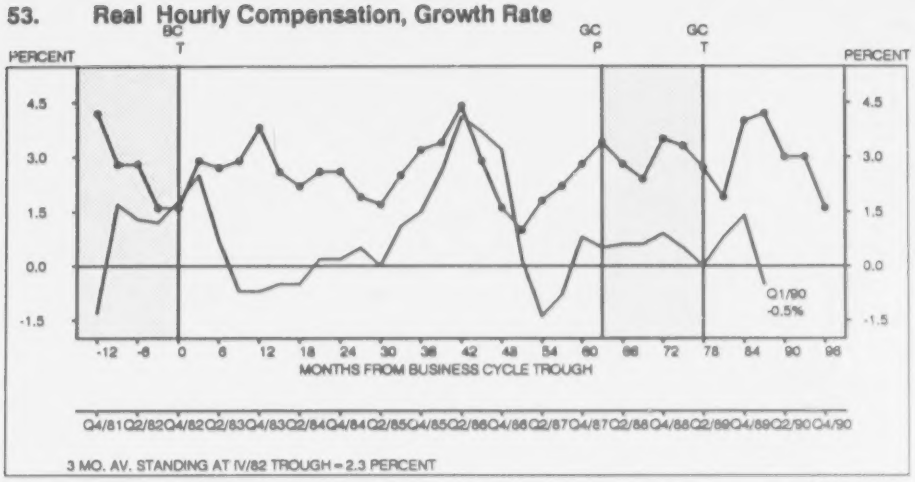
51. Unit Labor Costs, Growth Rate



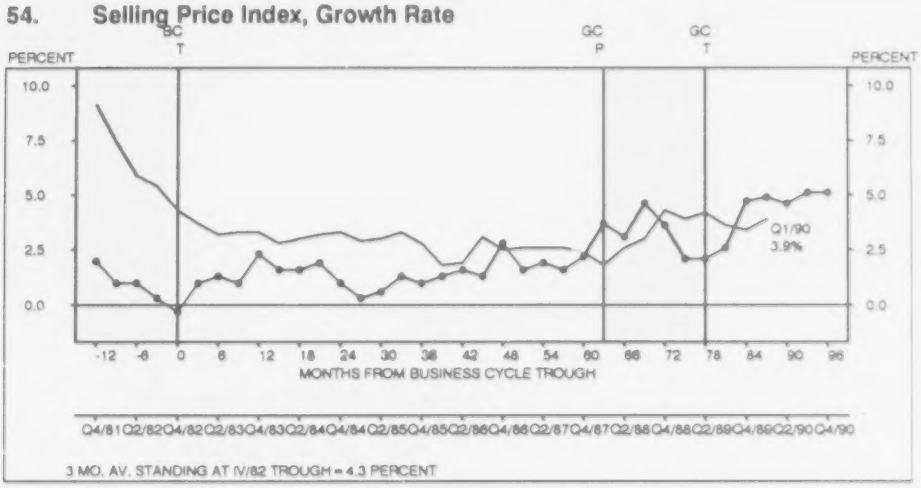
52. Hourly Compensation, Growth Rate



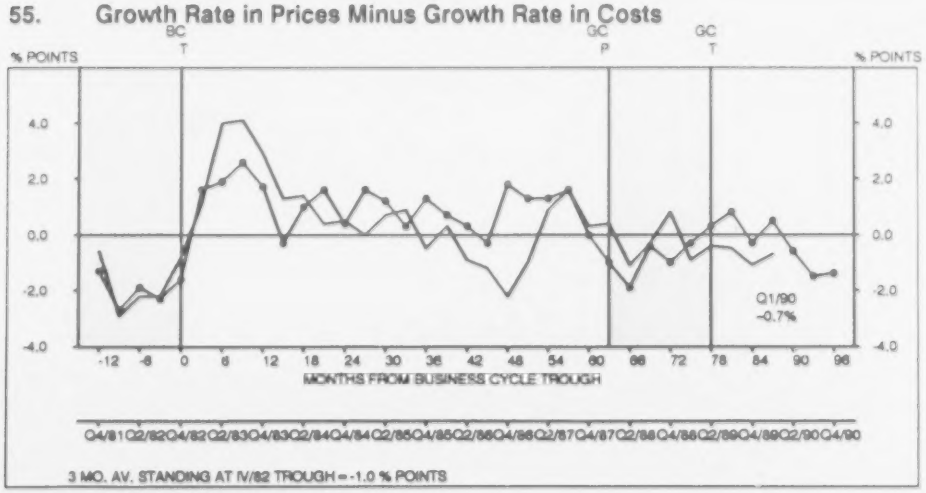
53. Real Hourly Compensation, Growth Rate



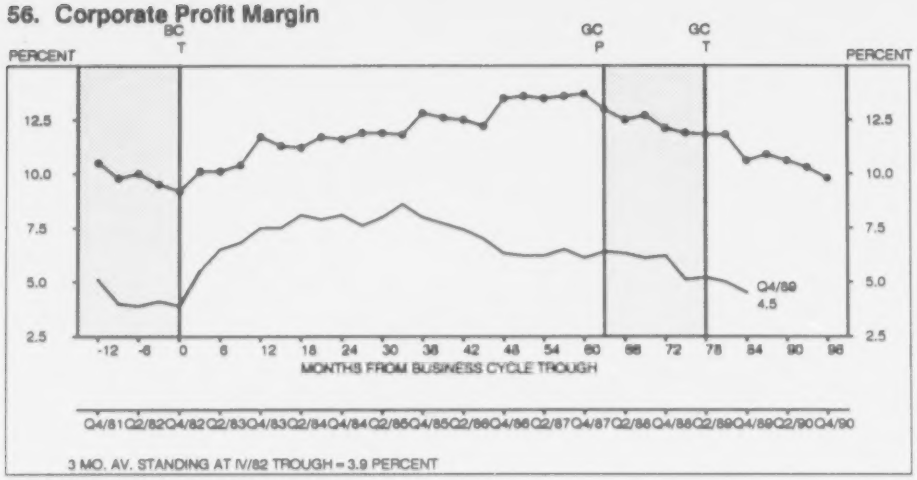
54. Selling Price Index, Growth Rate



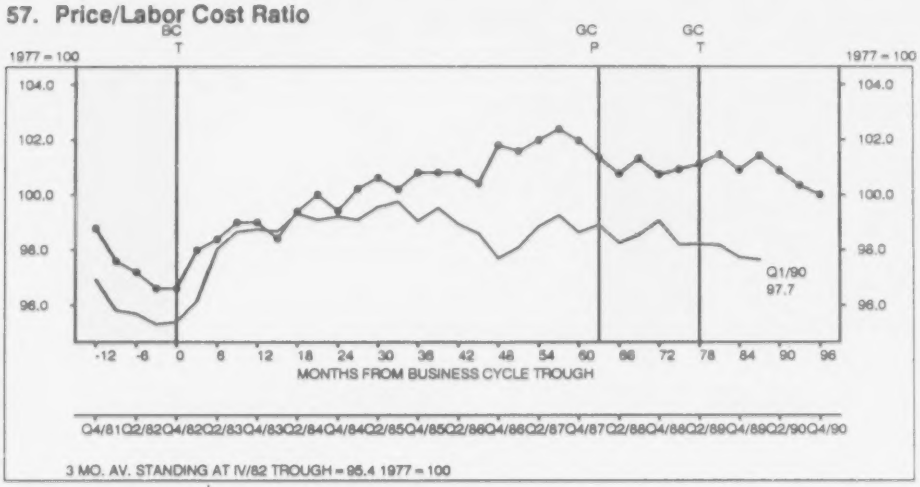
55. Growth Rate in Prices Minus Growth Rate in Costs



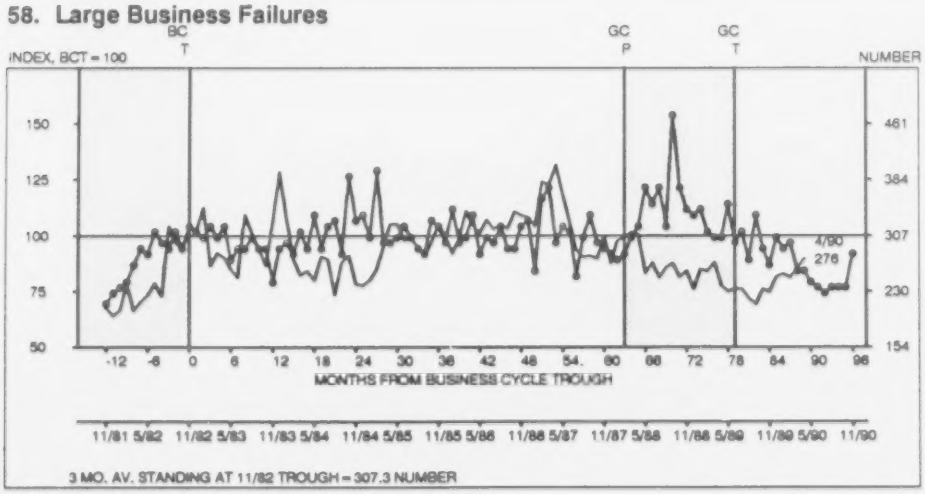
56. Corporate Profit Margin



57. Price/Labor Cost Ratio



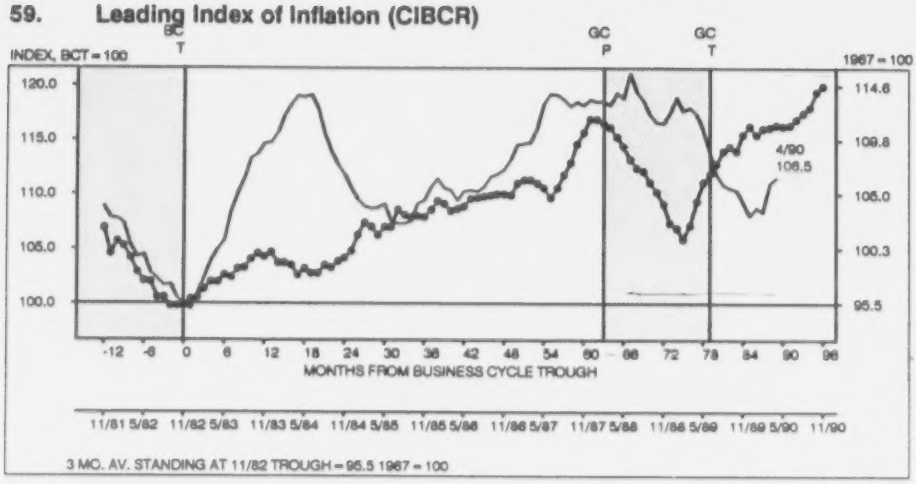
58. Large Business Failures



Both the profit margin ...

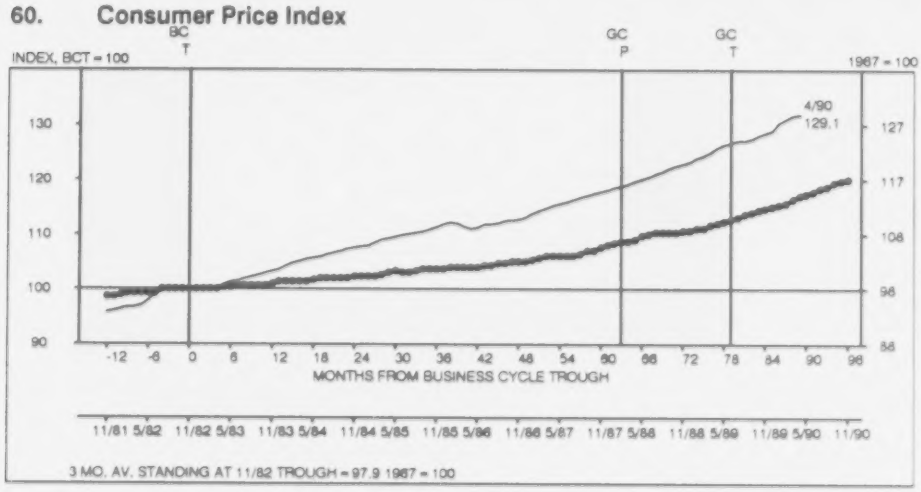
... and the ratio of price to unit labor cost, a measure of profitability, continue their downward drift.

59. Leading Index of Inflation (CIBCR)

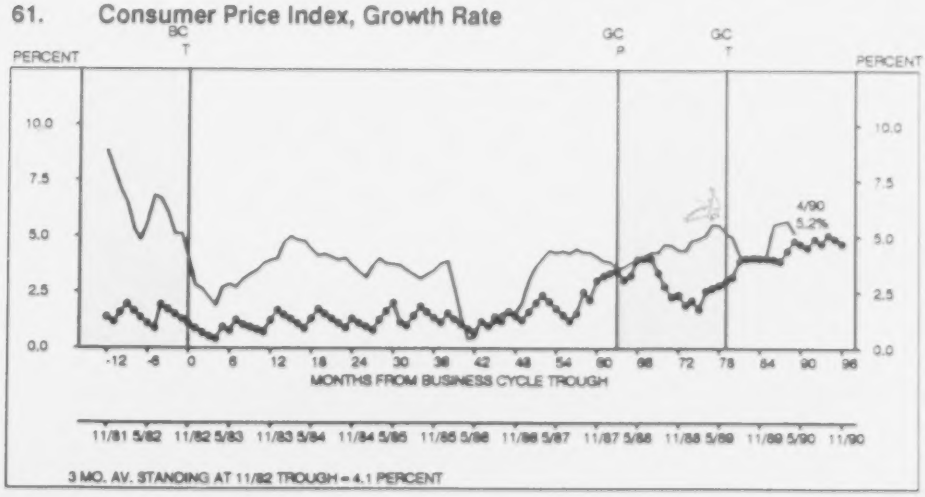


The Leading Index of Inflation declined to 105.3 in May, indicating that the signal of a downswing in inflation, issued by the the index in September 1988 is still in effect.

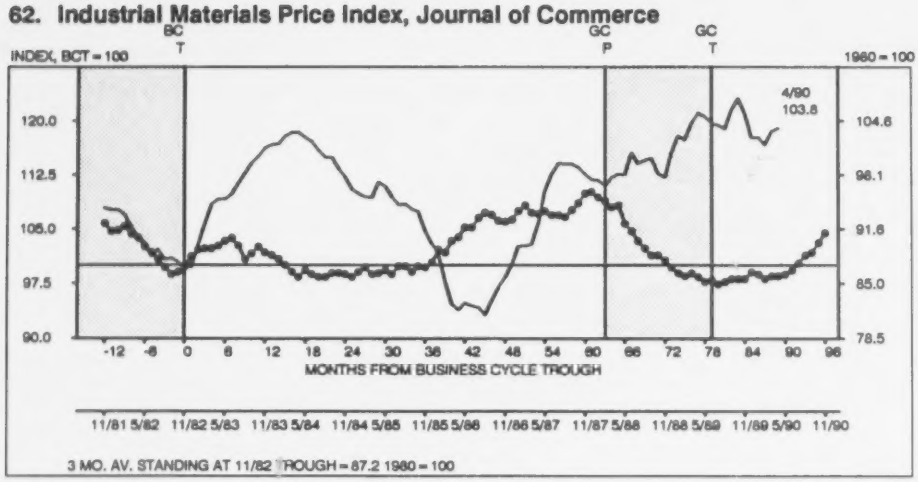
60. Consumer Price Index



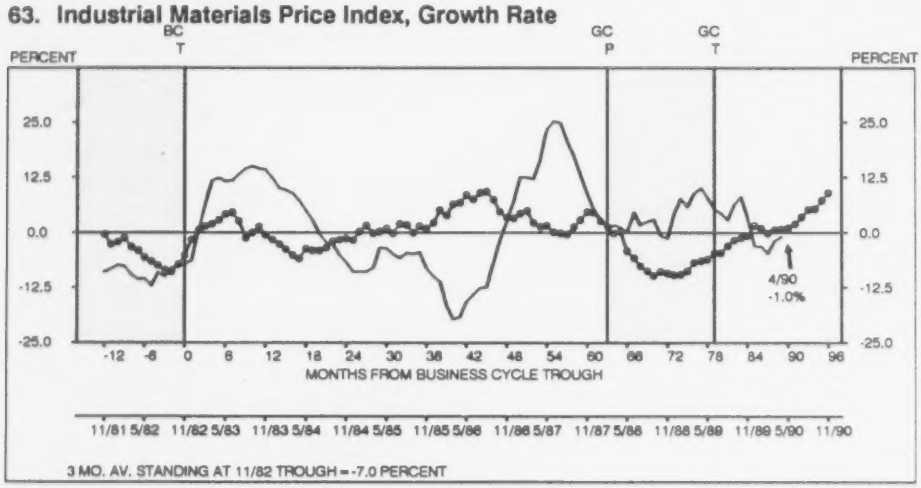
61. Consumer Price Index, Growth Rate



62. Industrial Materials Price Index, Journal of Commerce

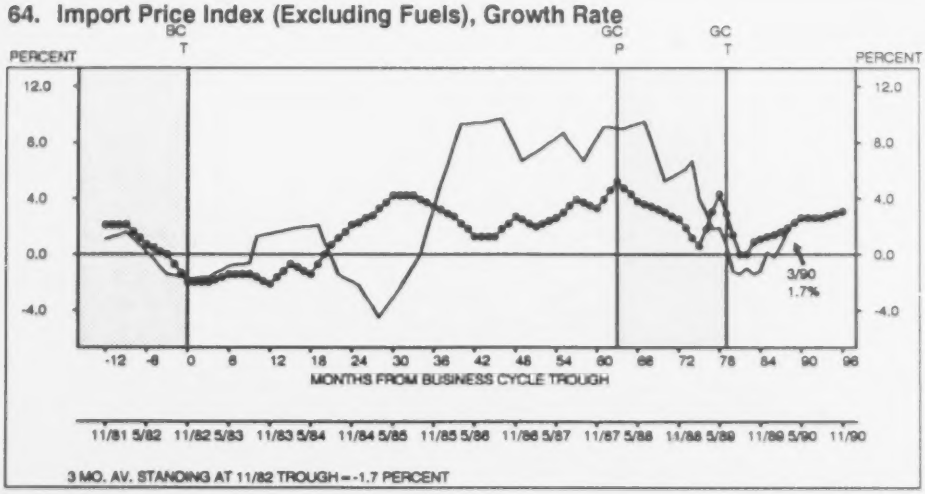


63. Industrial Materials Price Index, Growth Rate

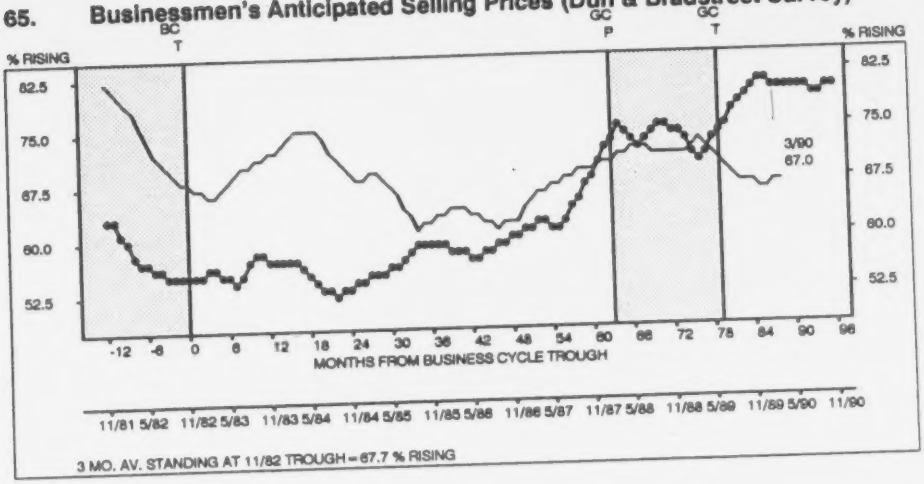


Softness persists in the markets for industrial materials.

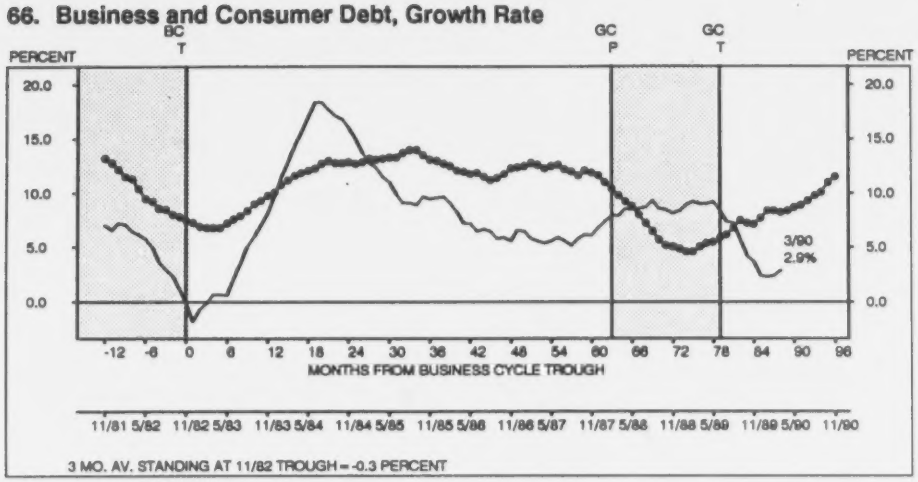
64. Import Price Index (Excluding Fuels), Growth Rate



65. Businessmen's Anticipated Selling Prices (Dun & Bradstreet Survey)

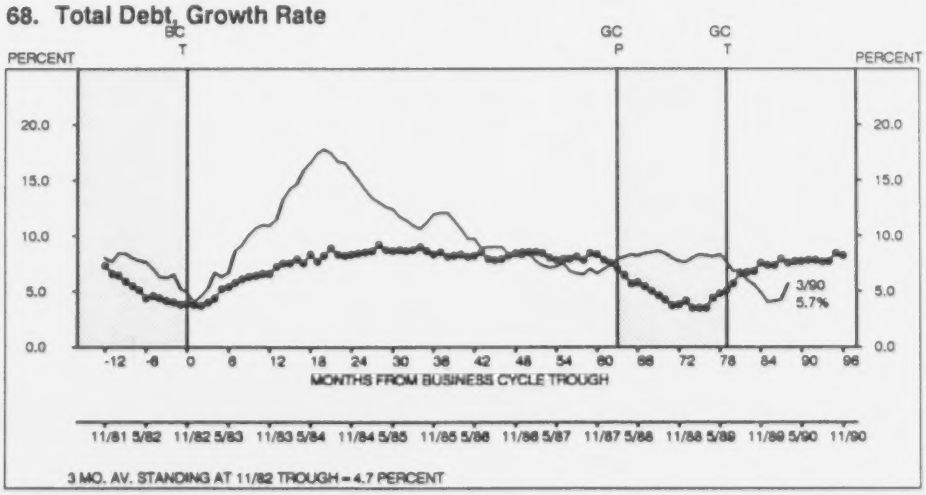


66. Business and Consumer Debt, Growth Rate

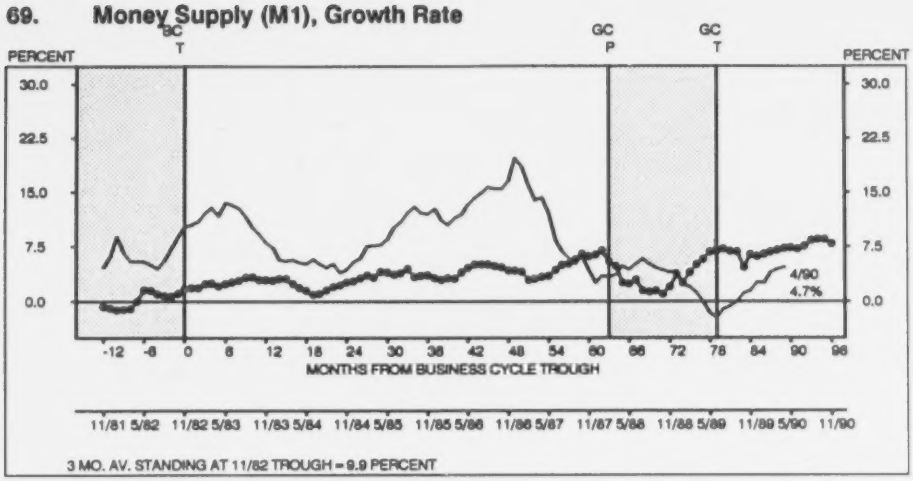


67. Federal Debt, Growth Rate

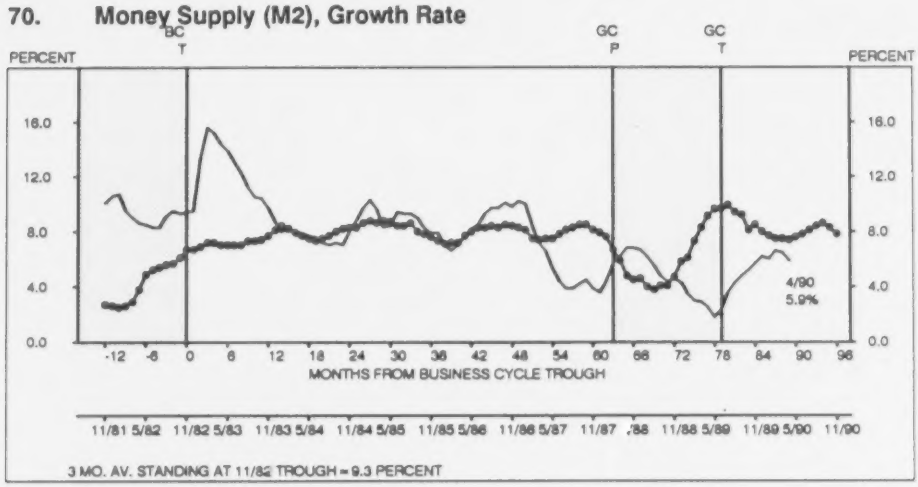
68. Total Debt, Growth Rate



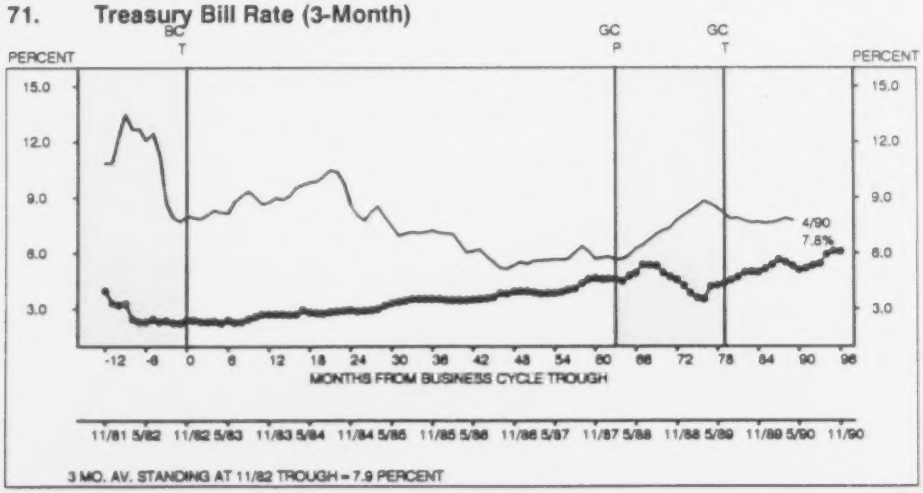
69. Money Supply (M1), Growth Rate



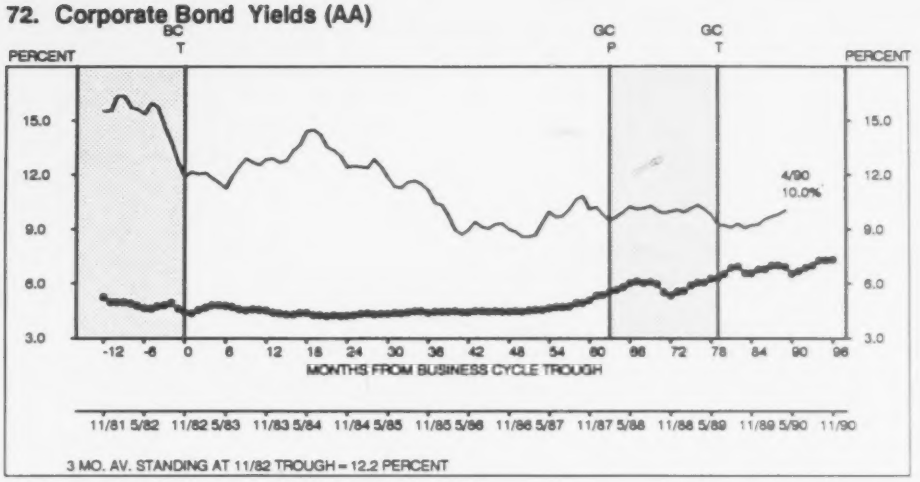
70. Money Supply (M2), Growth Rate



71. Treasury Bill Rate (3-Month)



72. Corporate Bond Yields (AA)



73. Common Stock Price Index (S&P 500)

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ABOUT THE CENTER FOR INTERNATIONAL BUSINESS CYCLE RESEARCH

The Center for International Business Cycle Research (CIBCR), established in 1979, specializes in the study of trends and fluctuations in economic growth and inflation in the United States and other countries. The analysis contained in this report is the result of the Center's ongoing research programs on U.S. business cycles. Readers are invited to submit comments and suggestions concerning this publication. In addition, readers wishing to secure data compiled by the Center on the ten other major industrial countries or copies of research reports may do so by communicating with:

Center for International Business Cycle Research
Uris Hall, Columbia University
New York, NY 10027
Telephone: (212) 280-2916

ABOUT THIS REPORT

Recession-Recovery Watch is a quarterly report designed to analyze current business cycle trends in terms of previous recession or recovery patterns in the United States.

This report was begun in August 1979, under the direction of Dr. Geoffrey H. Moore, following the methodology for measuring recessions developed at the National Bureau of Economic Research. Although no forecasts are made, the materials in this report do permit glimpses into the future: first, by analyzing the behavior of various leading indicators; second, by indicating what is likely to happen in terms of what did happen in previous recessions and recoveries.

The leading indicators used in this report are relevant to future output and employment because they represent actions taken, like the placing of orders, that will result in future output, or because they reflect factors, like profits, that influence future decisions on output. The record of what happens during the latter stages of business cycles is relevant because of the family resemblance among successive cycles, a resemblance that has its origin in the processes by which business cycles are generated. Every business cycle has its own surprises, partly because of policy actions taken, but many developments are not surprising, having occurred many times before. The historical comparisons contained in this report help one anticipate what is typical and distinguish it from the unusual.

Other CIBCR publications include International Economic Indicators, a monthly 80-page compilation of charts and data on leading and coincident indicators for eleven industrial countries. Monthly press releases are issued on a leading index of inflation and a leading employment index for the United States. A bulletin on leading and coincident Service Sector Indicators is also published monthly.

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RECESSION–RECOVERY WATCH...

A Quarterly Report Designed to Assist in the Evaluation of Current Business Conditions

Published by the Center for International Business Cycle Research,
Columbia Business School, Columbia University, New York, NY 10027

Dr. Geoffrey H. Moore
Director

Vol.12, No. 3
August 1990

Summary

Prior to the Persian Gulf crisis in August, the U.S. economy continued to grow at a slow pace. A new set of signals designed to give early warnings of both slowdowns and recessions indicates a continuing slowdown, but has not produced a definitive signal of recession. The long leading index has been moving down toward the pre-recession track, and so has the Business Week leading index, which now covers the initial impact of the crisis. Confirmation by other leading indexes with shorter lead-times is still lacking, however. On the inflation front the Center's daily inflation index rose dramatically during August, reflecting the market's assessment of the impact of the rise in oil prices. The rate of inflation in consumer prices during the next few months is likely to be well above its level in previous economic slowdowns.

Signals of Recession

With the economic developments sparked by the Iraq affair, particularly the jump in oil prices and in military expenditures, it has become more important than ever to watch for early warning signals of recession. With that in mind we have revised the signal system developed some years ago at CIBCR. We now utilize the Center's long leading index as well as the revised leading and coincident indexes first published by the Commerce Department in March 1989.

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The list of sequential signals has been extended from three to four, to take advantage of the earlier warnings provided by the long leading index.

The historical record is presented in Tables A and B. Since recessions are usually preceded by slowdowns lasting from a couple of months to a year or more, the tables show the dates of growth cycle peaks and troughs, when slowdowns began and ended, as well as the business cycle peaks and troughs. Slowdowns are important partly because some industries or areas of the country may experience recessions when the national economy is only slowing down, or because some markets, such as those for equities or industrial materials, are especially sensitive to slowdowns. The records show that weakness in the long leading index, defined as a six-month smoothed growth rate of less than 2.3% (which is 1.0% below the long-run trend rate of 3.3%), occurred before every recession since 1950, with an average lead of 12 months. The same signal anticipated most of the slowdowns as well, with an average lead of 3 months.

The current slowdown, which began in February 1989, was initially anticipated by a signal from the long leading index in September 1987, just before the stock market crash, though not enough before to be useful, in view of the lag in data availability. This downturn signal was cancelled in February 1988, when the long leader started growing vigorously. The signal was renewed and cancelled again in March and August 1989. The latest downturn signal from the long leader came in March 1990 and is still in effect, together with the P1 signal from the BCD leading index that has been on since November 1987. Neither of these signals is conclusive with respect to a recession, while the P2 signal, which is more conclusive, came into effect in February 1990 but was cancelled in May. Hence the signal system leaves us with the prospect of a continuing slowdown, which may or may not be succeeded by a recession.

In Charts A, B and C we look at the three index growth rates in terms of their average patterns during growth cycle slowdowns that became recessions and those that did not. The long leading index has shifted course sharply, and in an unfavorable direction. The BCD leading index also has come closer to its average track during the slowdowns that became recessions. The BCD coincident index, on the other hand, is still clearly on the average track of the slowdowns that did not become recessions.

Two of the Center's leading indexes that are more promptly available than those used in the signal system are shown in Charts D and E. The Business Week leading index, now available through the week of August 25, has been following a course very much like that of the long leading index. Its smoothed growth rate, computed in a manner similar to that used in the monthly indexes, has been negative since mid-April. The latest figures, for the weeks of August 4, 11, 18 and 25, show the initial effects of the Persian Gulf crisis. The drop in stock prices and rise in bond yields helped push the leading index down, but this was largely offset by the rise in industrial materials prices, especially oil prices, which may have unfavorable effects in this instance. In any case, the Business Week leading index is supporting the slowdown-or-recession prognosis supplied by the long leading index.

Some contrary evidence, also through August, is offered by the leading employment index (Chart E). This index has a lead-time about the same as the BCD leading index but is

TABLE A. FOUR SIGNALS OF SLOWDOWN AND RECESSION: LEAD-LAG RECORD, 1948-90

Growth Cycle Peak	Business Cycle Peak	LLP1 Signal (LL<2.3)	P1 Signal (L<2.3, C>0)	P2 Signal (L<-1.0, C<2.3)	P3 Signal (L<0, C<-1.0)	Lead(-) or Lag(+), in Months, at Business Cycle Peaks				Lead(-) or Lag(+), in Months, at Growth Cycle Peaks			
						LLP1	P1	P2	P3	LLP1	P1	P2	P3
7/48	11/48	n.a.	n.a.	n.a.	1/49*	n.a.	n.a.	n.a.	+2	n.a.	n.a.	n.a.	+6
3/51	none	11/50	4/51	7/51	-	-	-	-	-	-4	+1	+4	-
3/53	7/53	4/53	5/53	8/53	9/53	-3	-2	+1	+2	+1	+2	+5	+6
2/57	8/57	9/55	2/56	7/56	9/57	-23	-18	-13	+1	-17	-12	-7	+7
2/60	4/60	7/59	11/59	5/60	9/60	-9	-5	+1	+5	-7	-3	+3	+7
5/62	none	-	6/62	-	-	-	-	-	-	-	+1	-	-
6/66	none	2/66	6/66	4/67	-	-	-	-	-	-4	0	+10	-
3/69	12/69	3/69	6/69	12/69	2/70	-9	-6	0	+2	0	+3	+9	+11
3/73	11/73	6/73	8/73	1/74	2/74	-5	-3	+2	+3	+3	+5	+10	+11
12/78	1/80	1/78	12/78	4/79	3/80	-24	-13	-9	+2	-11	0	+4	+15
none	7/81	-	7/81	9/81	10/81	-	0	+2	+3	-	-	-	-
6/84	none	-	6/84	-	-	-	-	-	-	-	0	-	-
2/89	-	3/90***	11/87	2/90**	-	-	-	-	-	+13	-15	+12**	-
Mean						-12	-7	-3	+2	-3	-2	+5	+9
Standard Deviation						8	6	5	1	8	6	5	3

Note: For full definition of P1, P2 and P3 signals, see Moore, Geoffrey H., *Business Cycles, Inflation and Forecasting*, 1983, pp. 44-55. This table is a revision of Table 4-7, p. 50, based on the new leading and coincident indexes first published by the Department of Commerce in March 1989. The LLP1 signal is based on the CIBCR's Long Leading Index.

*Growth rate data begin January 1949, so P3 signal might be earlier.

**Canceled 5/90. Excluded from averages.

***Two previous signals (9/87, 3/89) were canceled when LL > 4.3 (2/88, 8/89).

TABLE B. FOUR SIGNALS OF RECOVERY: LEAD-LAG RECORD, 1949-90

Growth Cycle Trough	Business Cycle Trough	LLT1 Signal (LL>1.0)	T1 Signal (L>1.0, C<1.0)	T2 Signal (L>4.3, C>1.0)	P3 Signal (L>4.3, C>4.3)	Lead(-) or Lag(+), in Months, at Business Cycle Troughs				Lead(-) or Lag(+), in Months, at Growth Cycle Troughs			
						LLT1	T1	T2	T3	LLT1	T1	T2	T3
10/49	10/49	2/49	8/49	1/50	3/50	-8	-2	+3	+5	-8	-2	+3	+5
7/52	none	2/52	6/52*	6/52**	8/52	-				-5	-1	-1	+1
8/54	5/54	1/54	5/54	11/54	12/54	-4	0	+6	+7	-7	-3	+3	+4
4/58	4/58	4/58	6/58	10/58	11/58	0	+2	+6	+7	0	+2	+6	+7
2/61	2/61	7/60	1/61	6/61	8/61	-7	-1	+4	+6	-7	-1	+4	+6
10/64	none	-	-	12/62**	5/63	-	-	-	-	-	-	-22	-17
10/67	none	1/67	6/67*	7/67**	11/67	-	-	-	-	-9	-4	-3	+1
11/70	11/70	10/70	12/70	5/71	12/71	-1	+1	+6	+13	-1	+1	+6	+13
3/75	3/75	4/75	6/75	10/75	1/76	+1	+3	+7	+10	+1	+3	+7	+10
none	7/80	-	9/80	12/80	-	-	+2	+5	-	-	-	-	-
12/82	11/82	3/82	9/82	5/83	6/83	-8	-2	+6	+7	-9	-3	+5	+6
1/87	none	-	-	7/85**	-	-	-	-	-	-	-	-18	-
Mean						-4	0	+5	+8	-5	-1	-1	+4
Standard Deviation						4	2	1	3	4	2	9	8

Note: See note to table A.

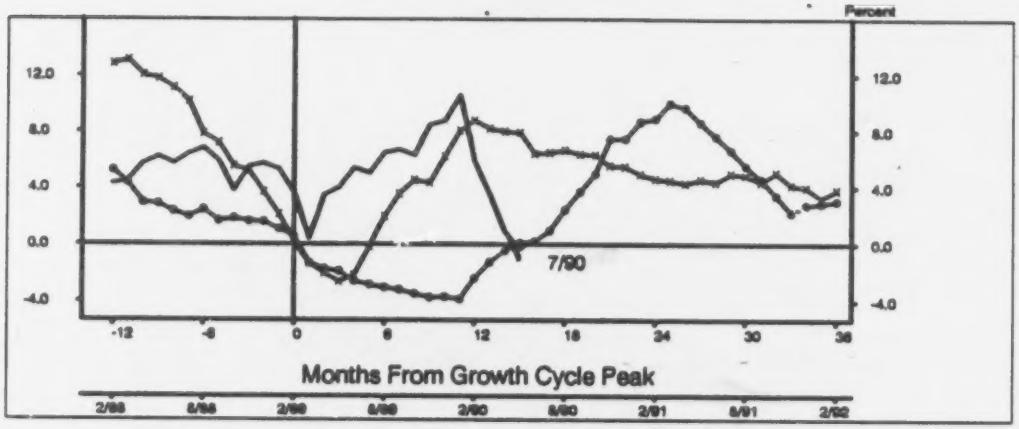
*P2 signal canceled (L>1.0 or C>4.3)

**P1 signal canceled (L>4.3)

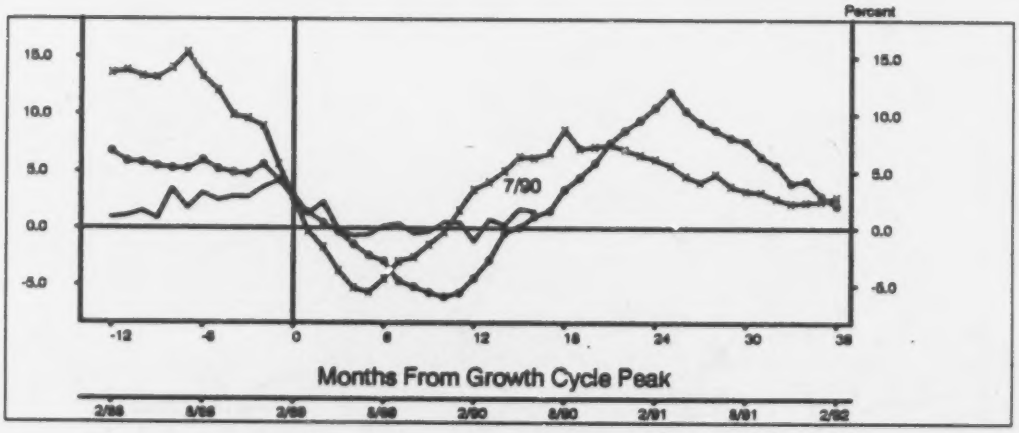
Center for International Business Cycle Research, Columbia University, August 1990.

Charts A, B and C.

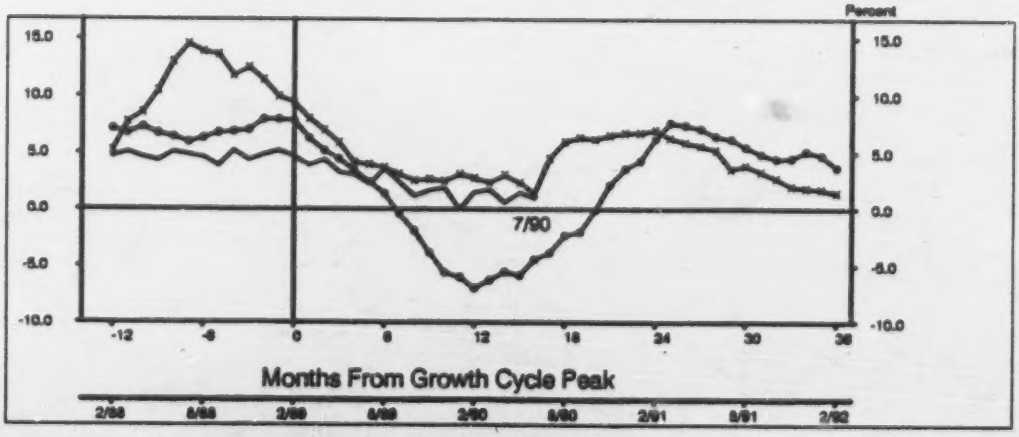
A. Long-Leading Index Growth Rates Before and After Growth Cycle Peaks

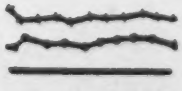


B. BCD Leading Index Growth Rates Before and After Growth Cycle Peaks



C. BCD Coincident Index Growth Rates Before and After Growth Cycle Peaks





Four Slowdowns Not Followed by Recession.
Seven Slowdowns Followed by Recession.
Current Slowdown.

Chart D.
Business Week Leading Index Growth Rates Before and After Growth Cycle Peaks

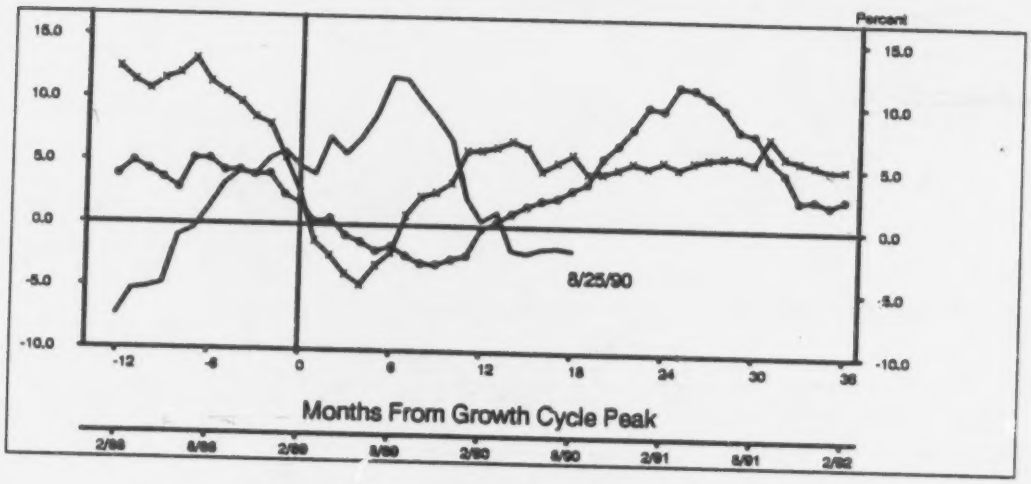
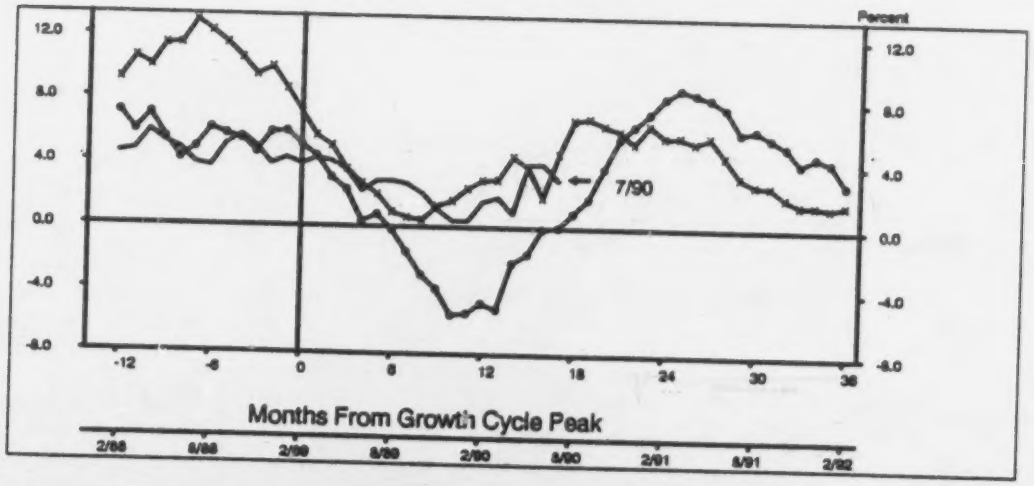


Chart E.
Leading Employment Index Growth Rates Before and After Growth Cycle Peaks



Four Slowdowns *Not Followed by Recession.*
Seven Slowdowns Followed by Recession.
Current Slowdown.

available more promptly (the first Friday of the following month). As of this writing the August figures show that the growth rate was closer to the slowdown than to the recession track.

The leading inflation index has been showing, at least through July, the same softness that it had shown in previous economic slowdowns, whether followed by recessions or not (Chart F). The oil crisis will almost certainly boost the index in August, since oil prices are included in one of the components of the leading inflation index, namely the industrial materials price index. The latest smoothed annual growth rate for the materials price index, for the week ending August 25, was 4.6%, whereas four weeks before that (July 28) it was –4.4%. It is worth noting, also, that the Center's Daily Inflation Index, which contains a number of components bearing on the market's assessment of inflation, has been rising sharply throughout August (see Chart H). Hence the CPI rate will surely jump to new highs in the next few months, putting it well above the average levels of previous slowdowns, whether followed by recessions or not (Chart G).

Chart F.
Leading Inflation Index Before and After Growth Cycle Peaks

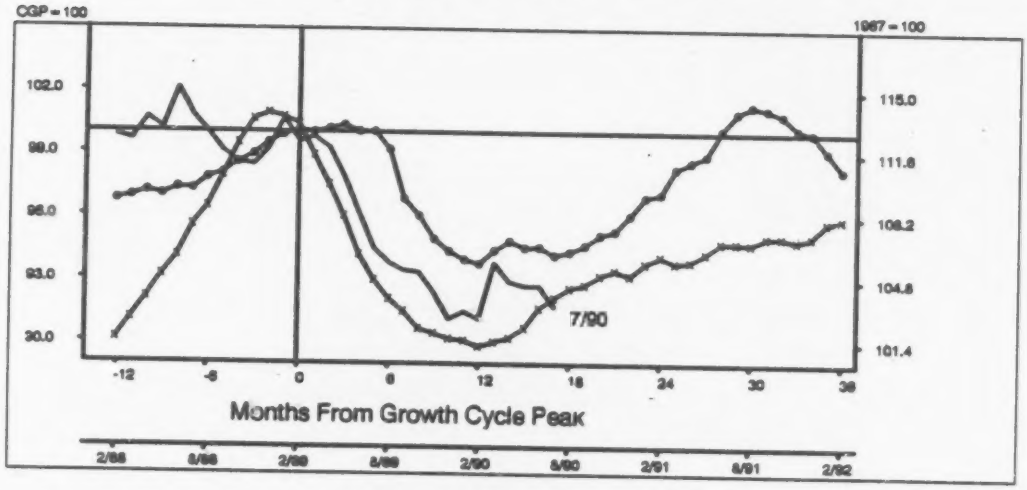
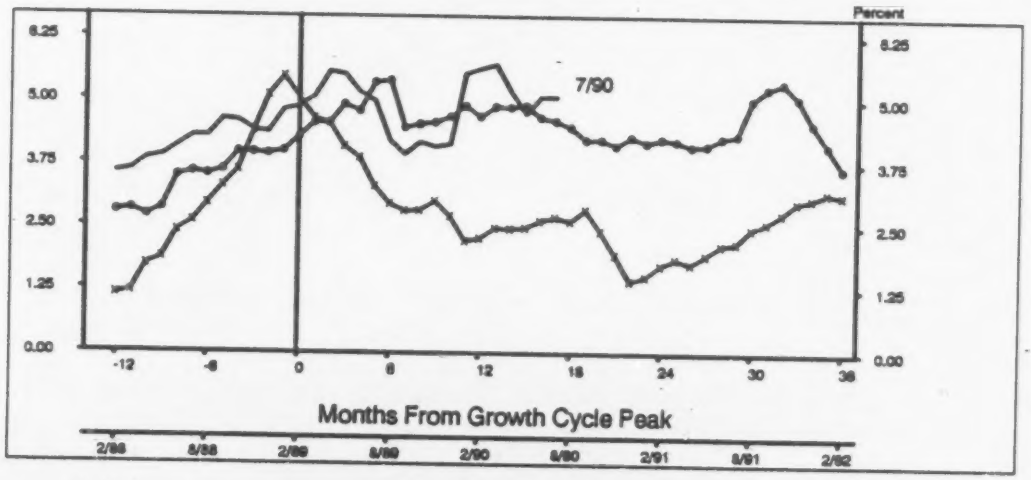
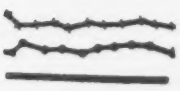


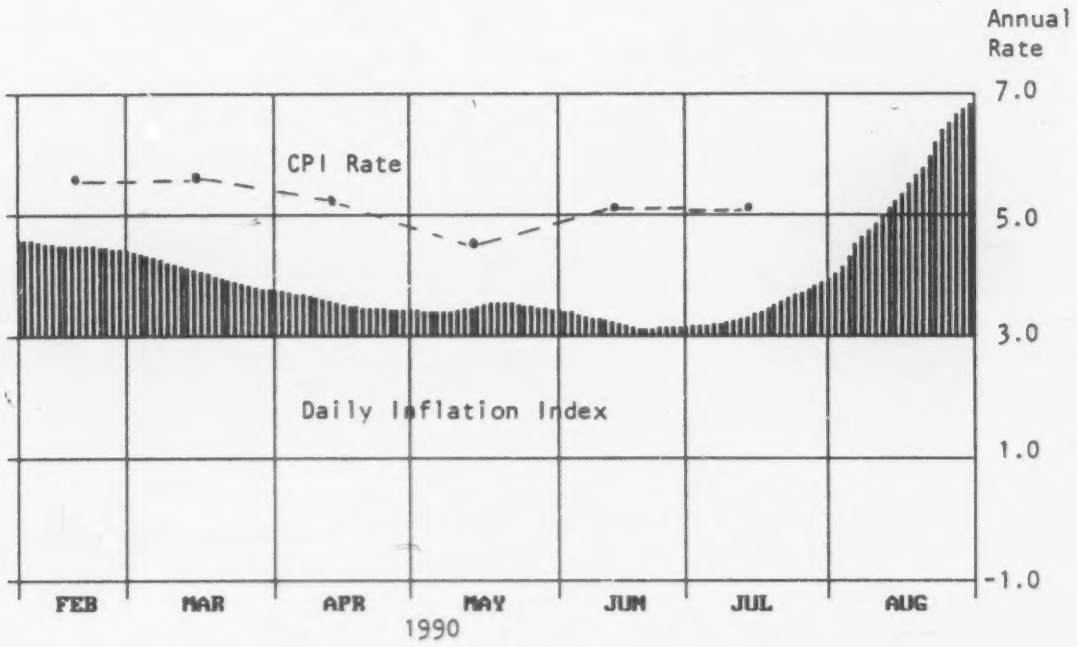
Chart G.
Consumer Price Index Growth Rates Before and After Growth Cycle Peaks



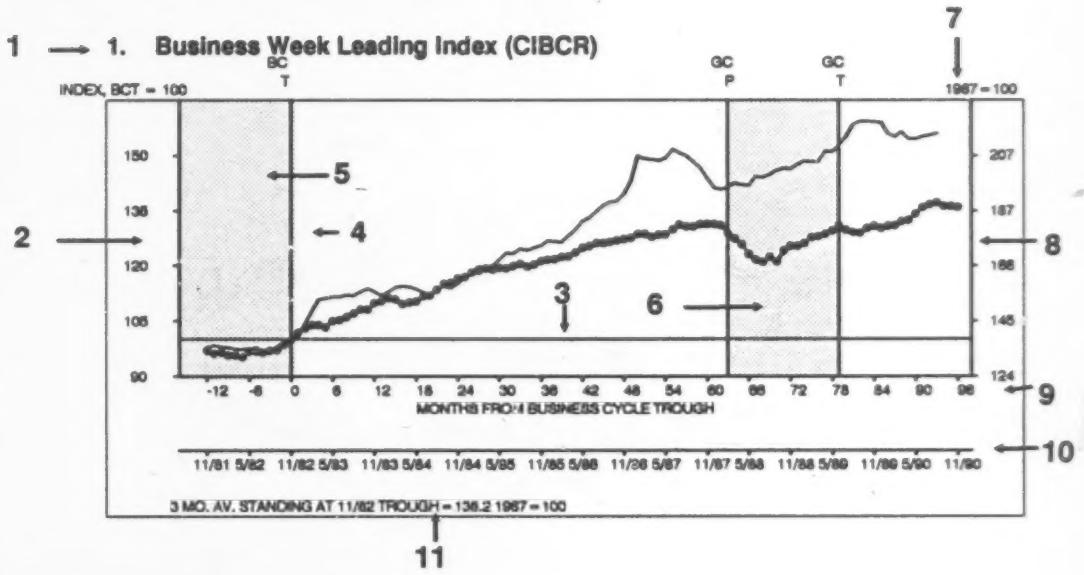


Four Slowdowns *Not Followed by Recession.*
Seven Slowdowns Followed by Recession.
Current Slowdown.

Chart H.
Two Measures of the Rate of Inflation:
Daily Inflation Index (CIBCR) and Consumer Price Index (BLS)



HOW TO READ ACTUAL LEVEL CHARTS



1 CHART NUMBER AND TITLE: If the title does not say "growth rate," then the chart is for the actual level rather than for the growth rate.

2 LEFT-HAND SCALE measures movements in both current and past expansion, as a percentage of business cycle trough (BCT) standings. This is the common vertical scale along which the expansions are compared.

3 HORIZONTAL LINE shows levels at reference trough (100) for current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansion, which are all aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT) represents the 1966-67 growth recession.

7 UNITS for right-hand scale refer only to the current expansion.

8 RIGHT-HAND SCALE refers only to the current expansion. It is a transformation of the left-hand scale to show the current expansion in original units rather than with trough standing at 100.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both the current and past expansions. This is the common time scale along which the expansions are compared.

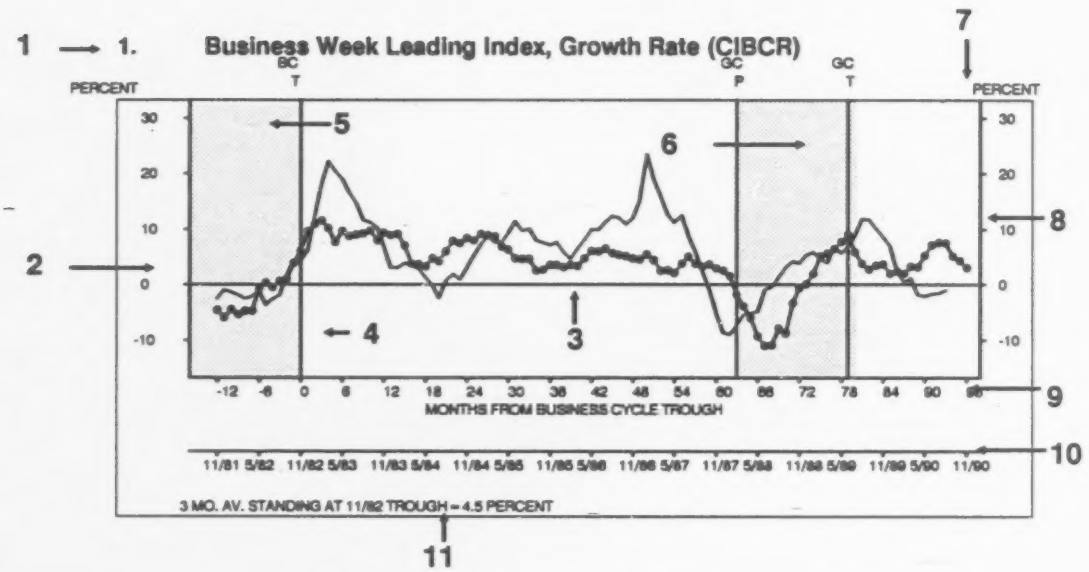
10 ACTUAL DATES refer only to the current expansion.

11 STANDING AT THE TROUGH is the level at which the current expansion began, and is calculated as the 3-month average centered on the trough month.

oooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

———— SOLID LINE indicates the current expansion, which began in November 1982, or Q4, 1982.

HOW TO READ GROWTH RATE CHARTS



1 CHART NUMBER AND TITLE: If the title says "growth rate," then the chart is for the 6-month smoothed growth rate, rather than the actual level. These growth rates are obtained by dividing the current month's figure by the average for the 12 preceding months, and expressing the result as a compound annual rate.

2 LEFT-HAND SCALE (same as the right-hand scale) shows growth rates in percent for both current and past expansions.

3 HORIZONTAL LINE is drawn at 0% growth rate, a natural reference level for both current and past expansions.

4 VERTICAL LINE represents reference trough dates for current and past expansions, which are aligned so that the business cycle trough (BCT) dates are positioned on the vertical line; i.e., the trough of the past expansion is aligned with the current trough to facilitate comparison.

5 LEFT SHADED AREA represents a recessionary period.

6 RIGHT SHADED AREA, between the growth cycle peak (GCP) and growth cycle trough (GCT), represents the 1966-67 growth recession.

7 UNITS for both scales in percent refer to growth rates for both current and past expansions.

8 RIGHT-HAND SCALE (same as left-hand scale) shows growth rates in percent for both current and past expansions.

9 HORIZONTAL SCALE measures months from business cycle trough (BCT) for both current and past expansions. This is the common time scale along which the expansions are compared.

10 ACTUAL DATES refer only to the current expansion.

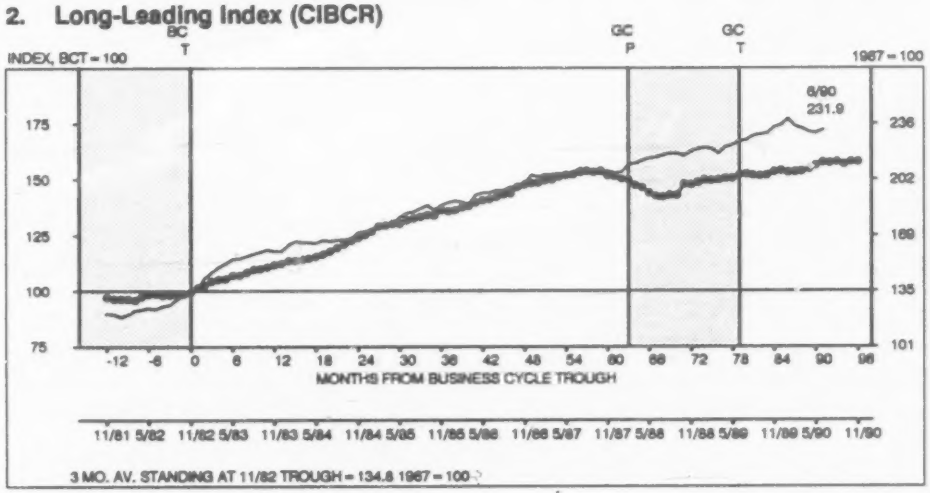
11 STANDING AT THE TROUGH is the growth rate at the time the current expansion began, and is calculated as the 3- month average centered on the trough month.

oooooooooooooo LINE WITH CIRCLES indicates 1961–69 expansion.

———————— SOLID LINE indicates the current expansion, which began in November 1982, or Q4 1982.

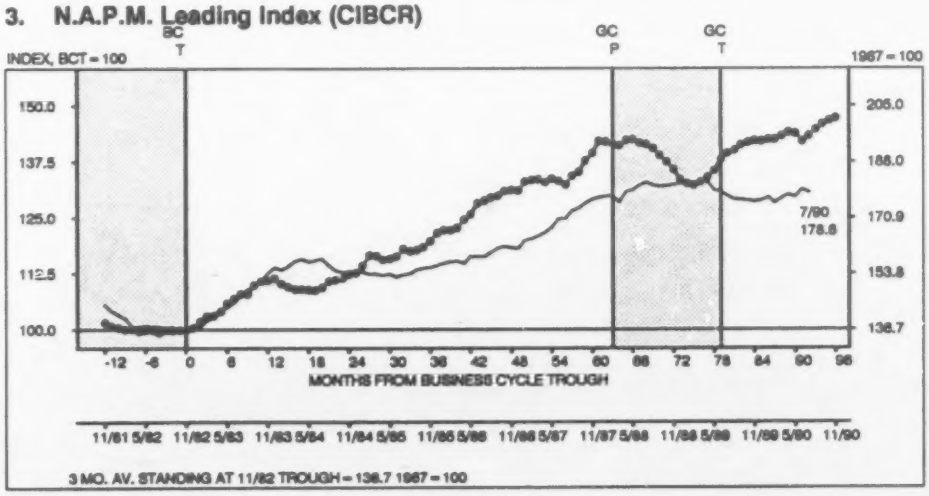
1. Business Week Leading Index (CIBCR)

2. Long-Leading Index (CIBCR)

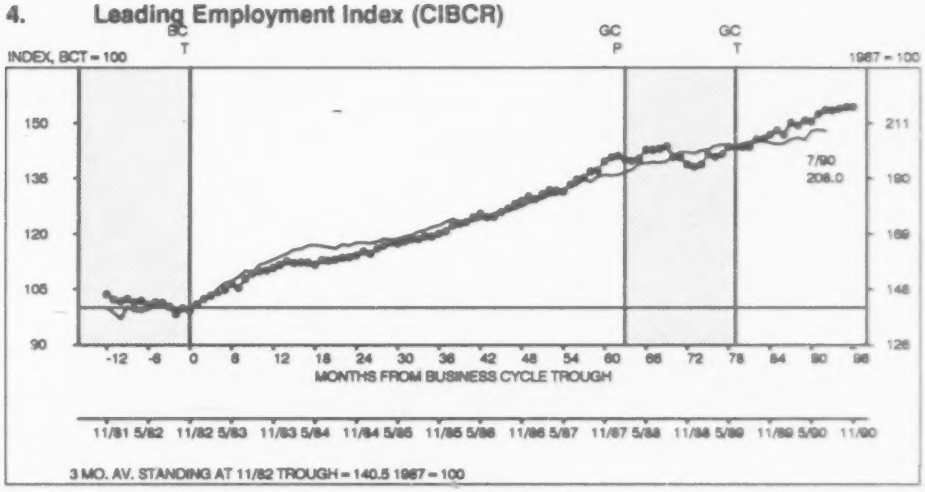


The Long-Leading Index dropped to 231.0 in July – its fifth decline in six months.

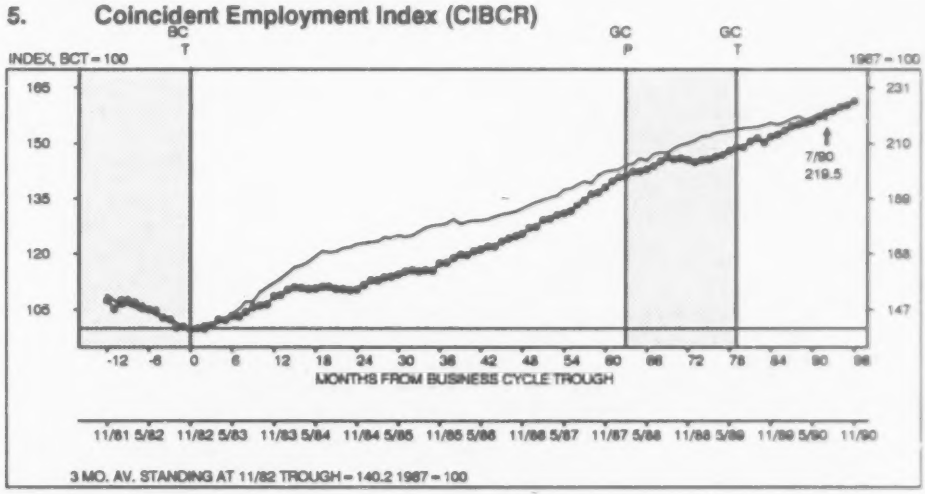
3. N.A.P.M. Leading Index (CIBCR)



4. Leading Employment Index (CIBCR)

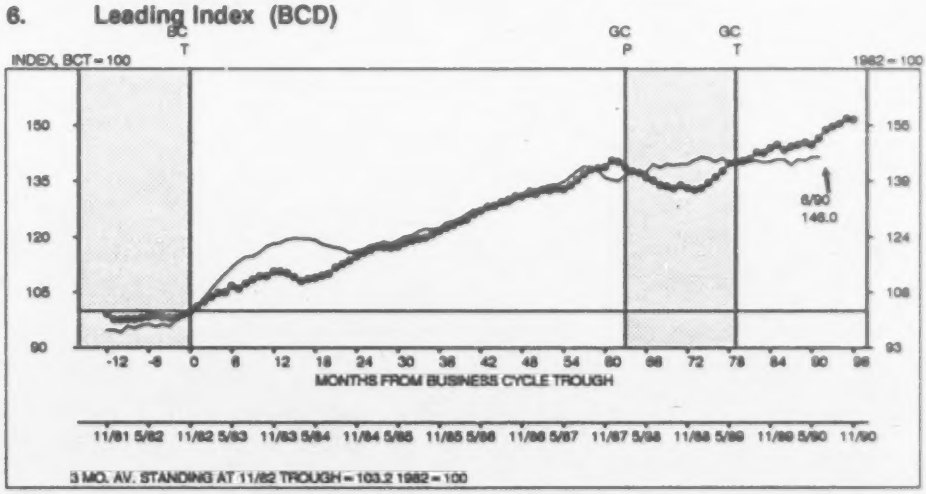


5. Coincident Employment Index (CIBCR)

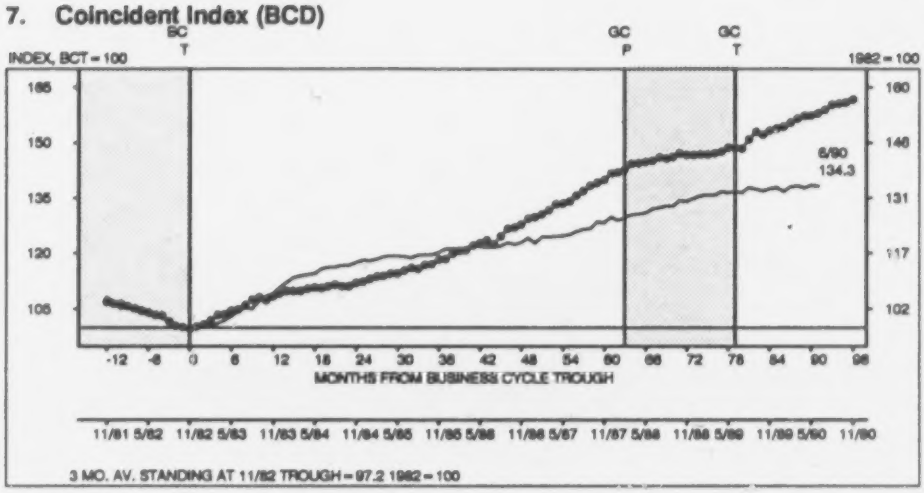


Both indexes are close to the 1961-69 expansion track

6. Leading Index (BCD)



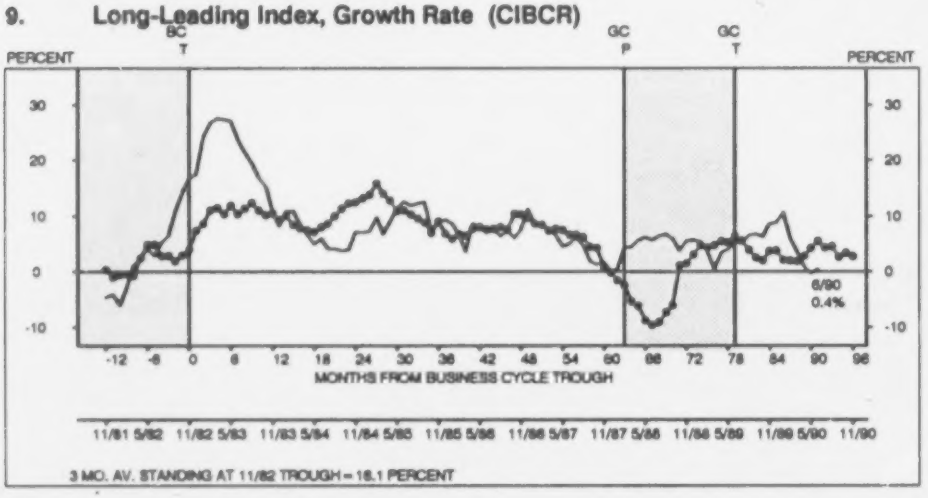
7. Coincident Index (BCD)



8. Business Week Leading Index, Growth Rate (CIBCR)

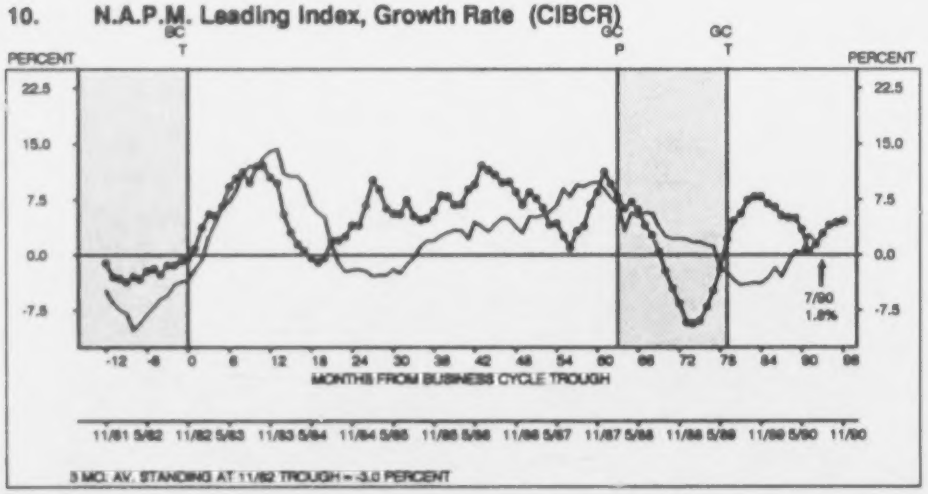
In August, the Business Week Index signalled an imminent recession.

9. Long-Leading Index, Growth Rate (CIBCR)

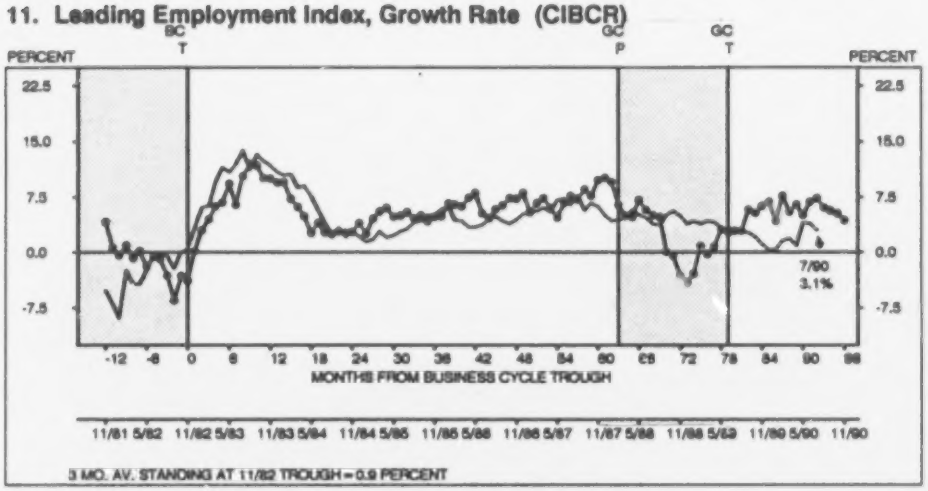


In July the growth rate of the long-leading index fell to -0.8%.

10. N.A.P.M. Leading Index, Growth Rate (CIBCR)

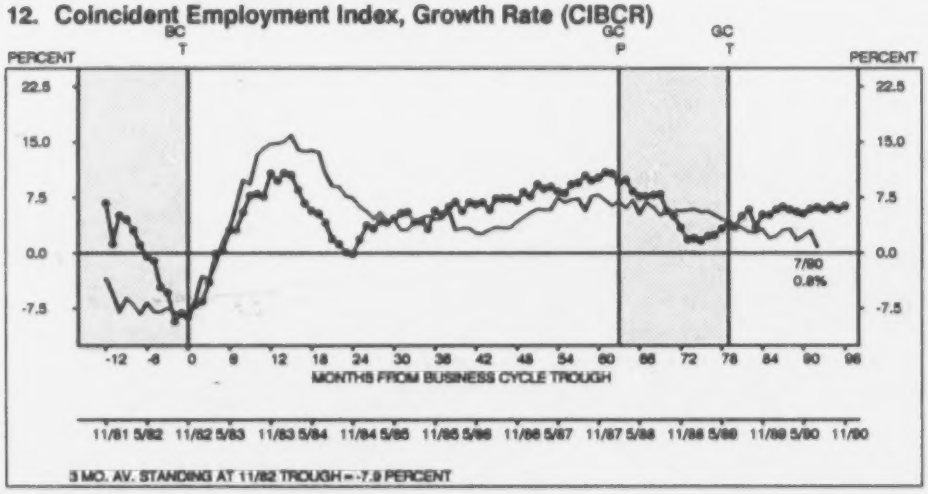


11. Leading Employment Index, Growth Rate (CIBCR)



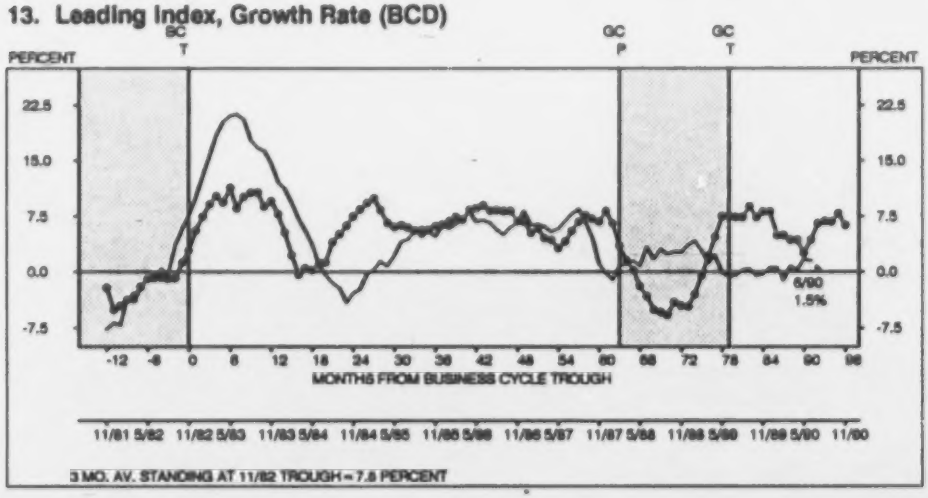
The August Growth rate was 3.3%

12. Coincident Employment Index, Growth Rate (CIBCR)

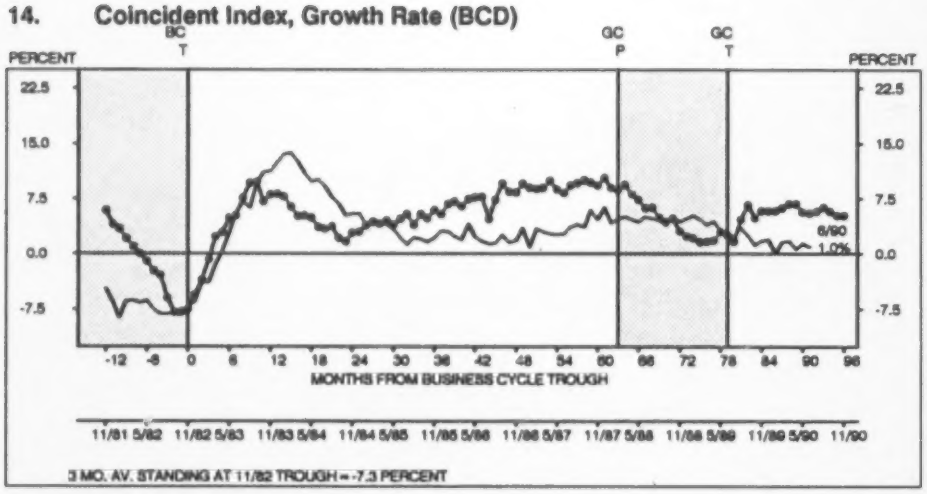


The August growth rate was down to 0.2%.

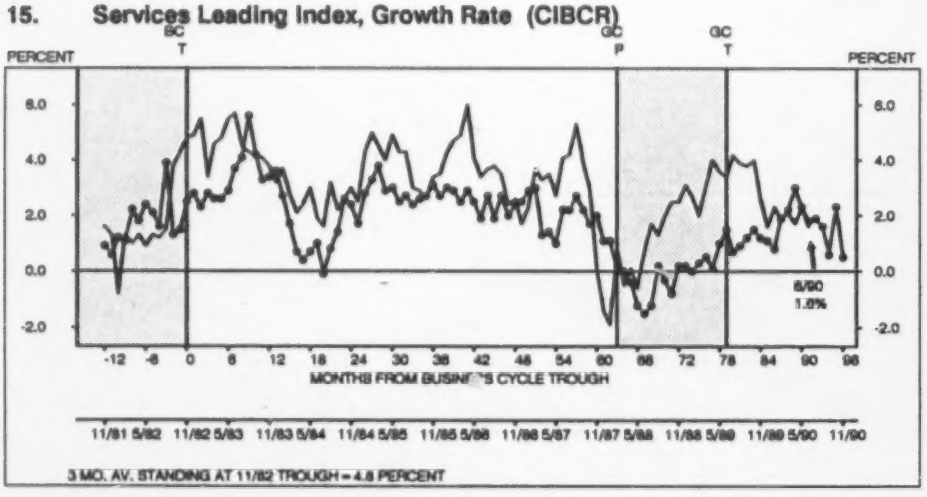
13. Leading Index, Growth Rate (BCD)



14. Coincident Index, Growth Rate (BCD)

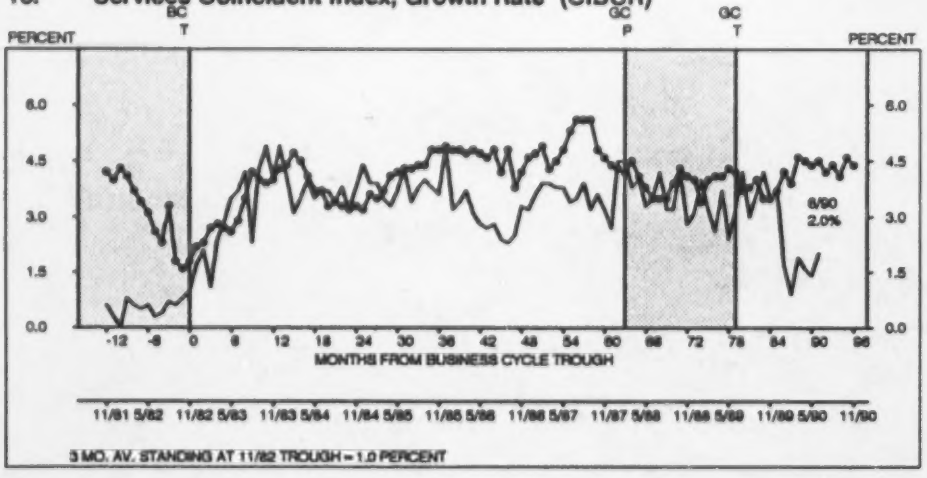


15. Services Leading Index, Growth Rate (CIBCR)

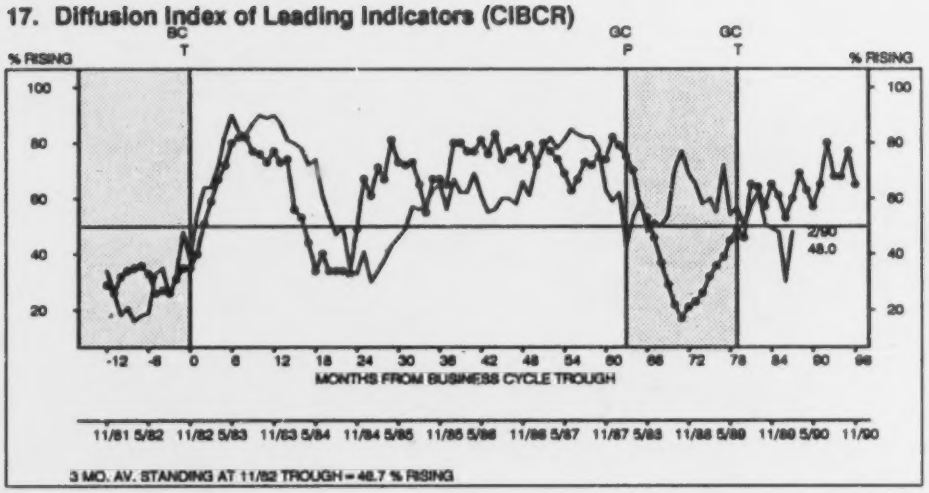


The growth rate of the Services Leading Index dropped further in July, to an anemic 1.3%.

16. Services Coincident Index, Growth Rate (CIBCR)

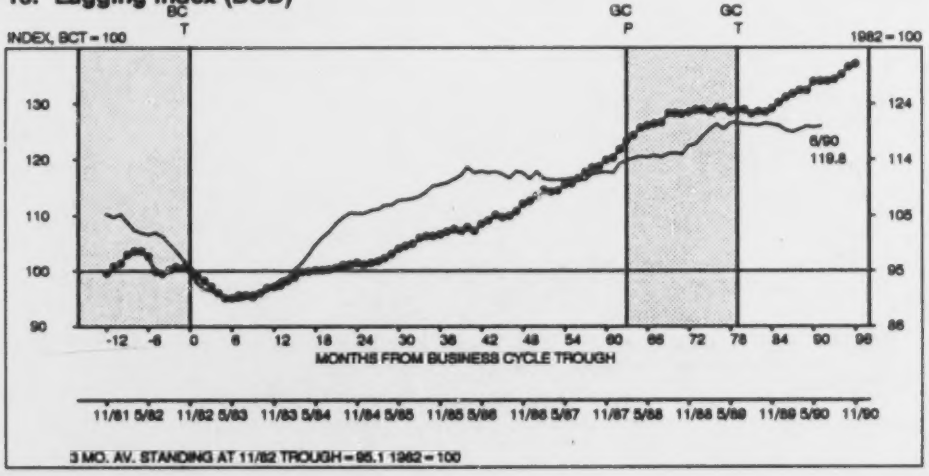


17. Diffusion Index of Leading Indicators (CIBCR)

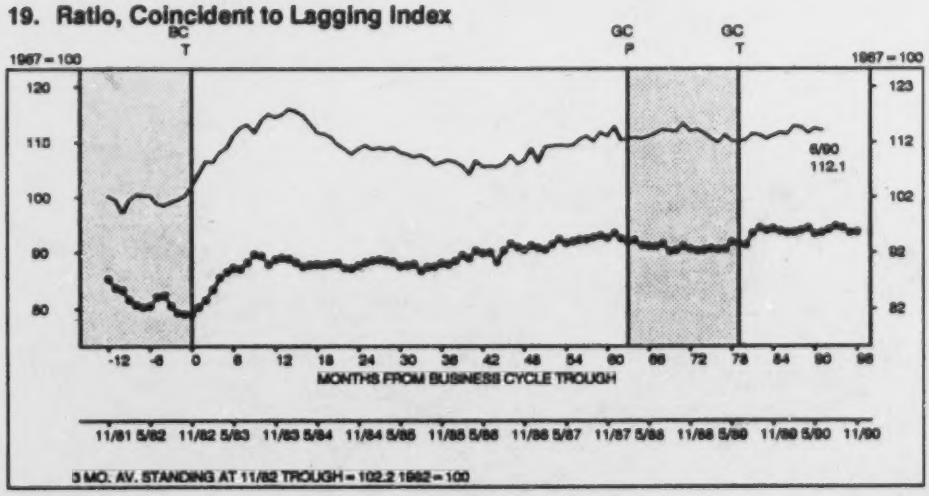


This series is discontinued.

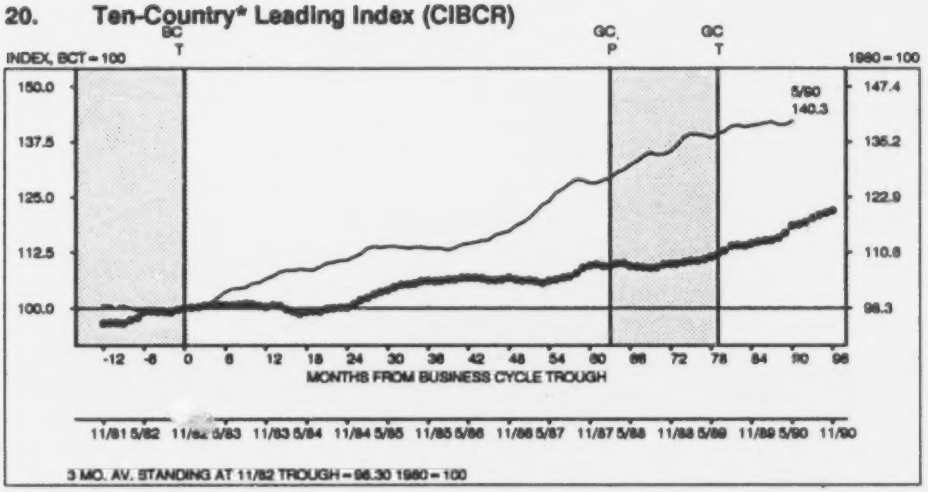
18. Lagging Index (BCD)



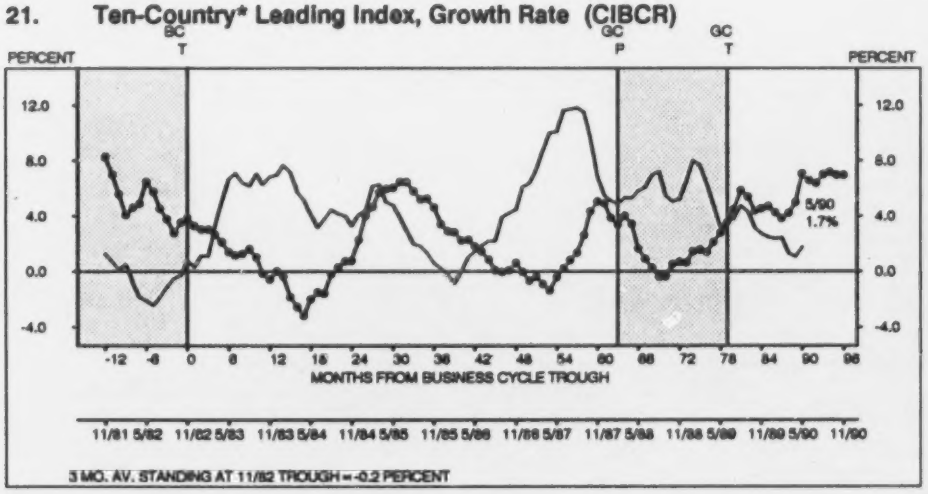
19. Ratio, Coincident to Lagging Index



20. Ten-Country* Leading Index (CIBCR)



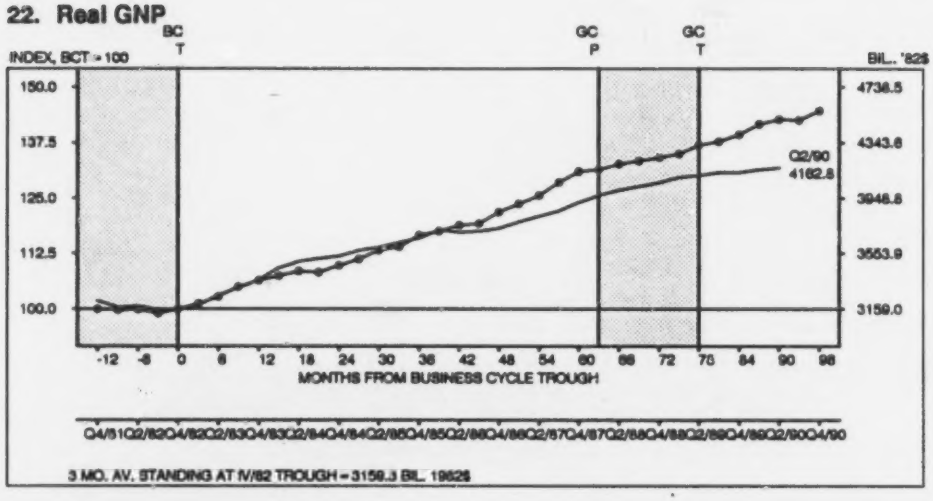
21. Ten-Country* Leading Index, Growth Rate (CIBCR)



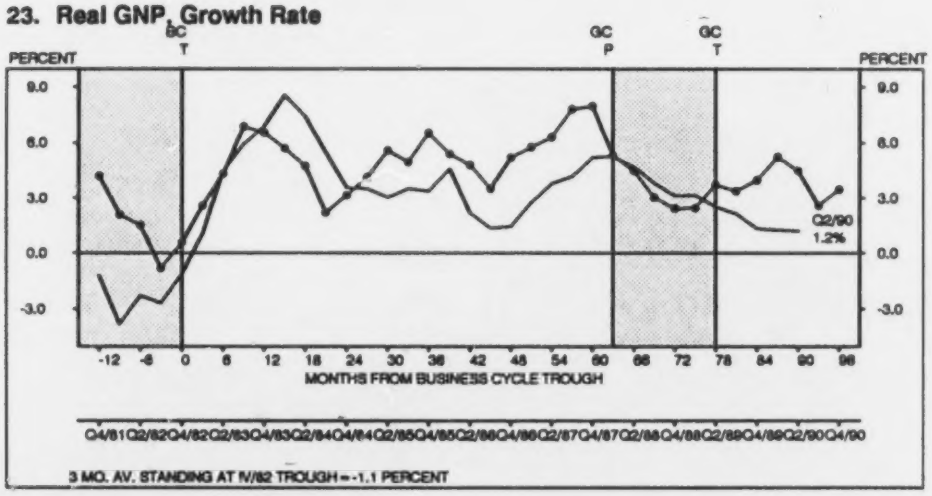
The slowdown in growth abroad predicted by this index should, at least in part, offset the beneficial effects of a cheaper dollar on U.S. exports.

*Canada, United Kingdom, West Germany, France, Italy, Japan, Australia, Taiwan, R.O.C., Korea, R.O.K., and New Zealand.

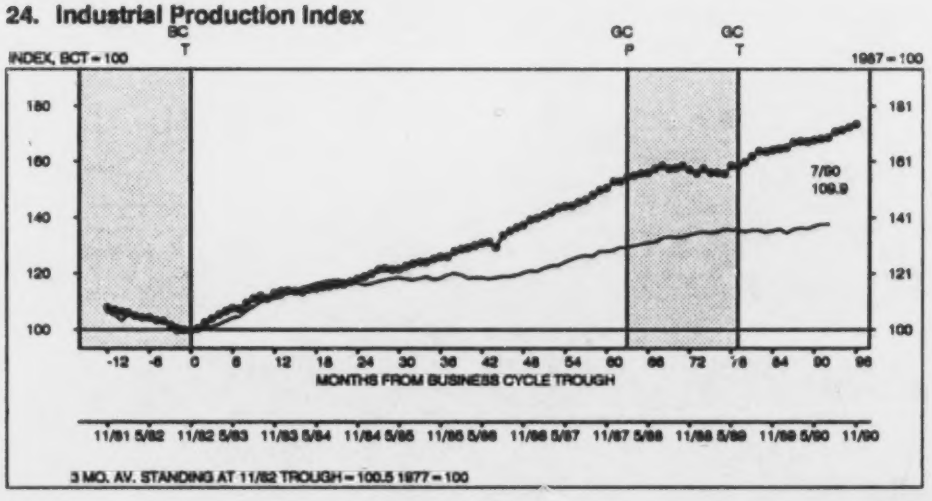
22. Real GNP



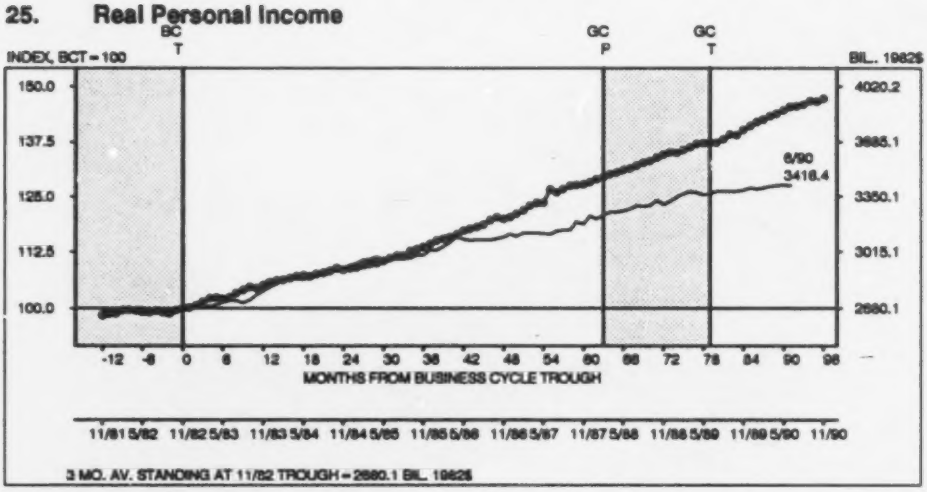
23. Real GNP, Growth Rate



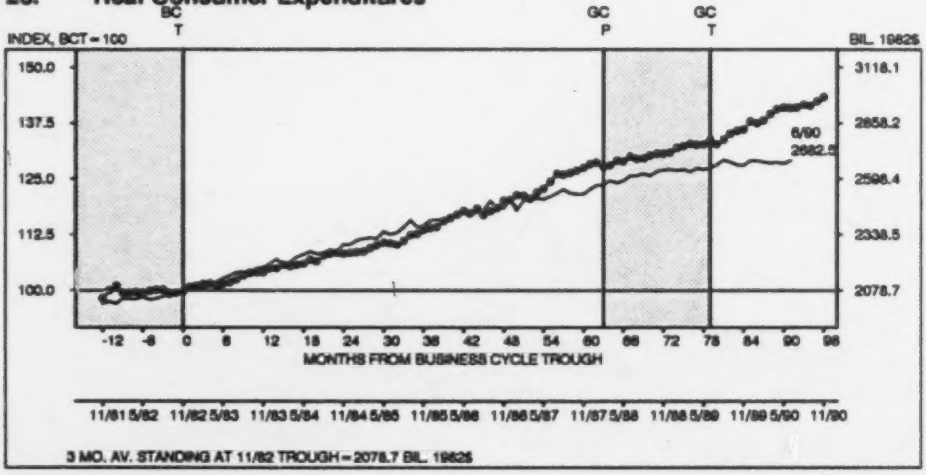
24. Industrial Production Index



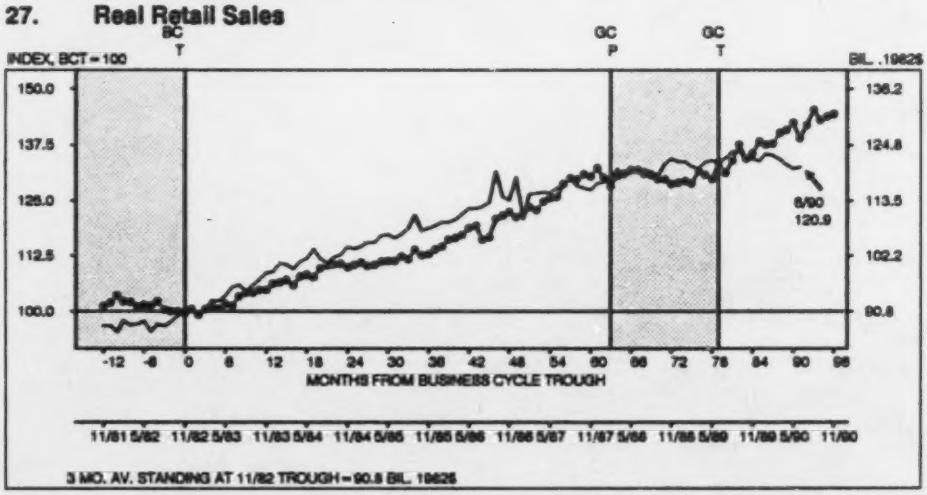
25. Real Personal Income



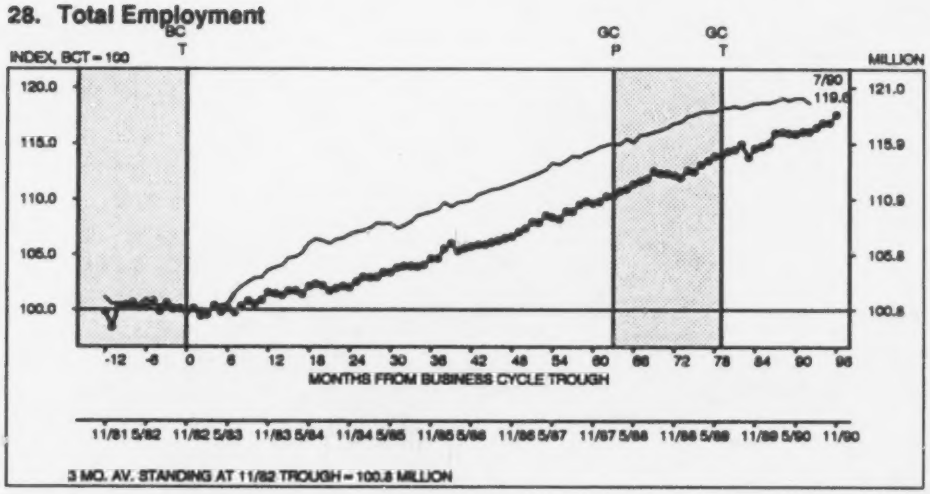
26. Real Consumer Expenditures



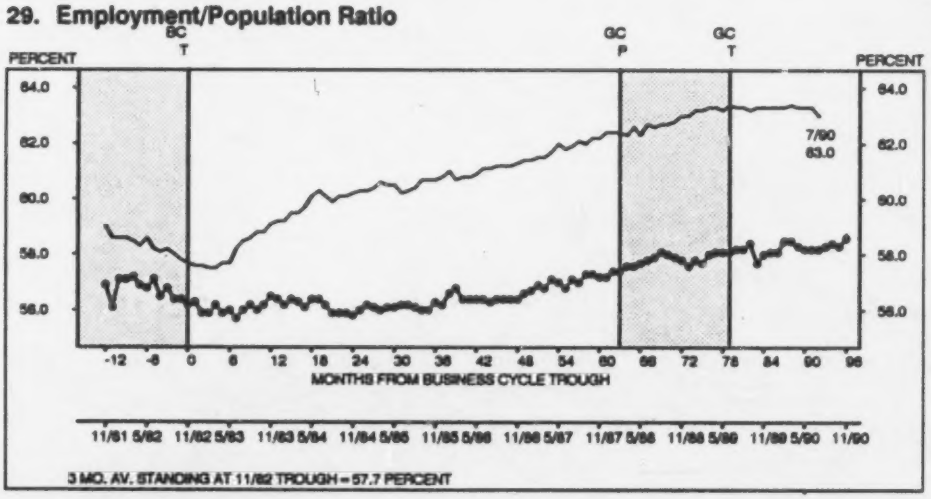
27. Real Retail Sales



28. Total Employment

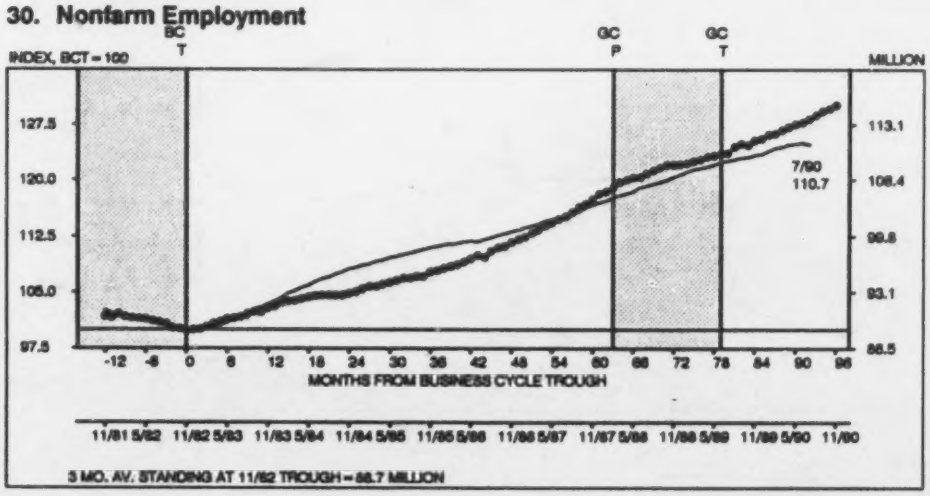


29. Employment/Population Ratio

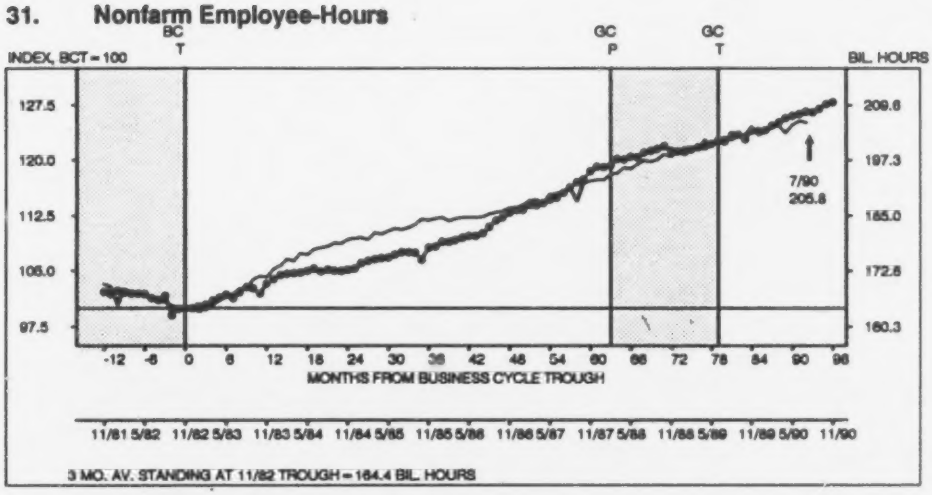


Employment and unemployment showed further weakness in August

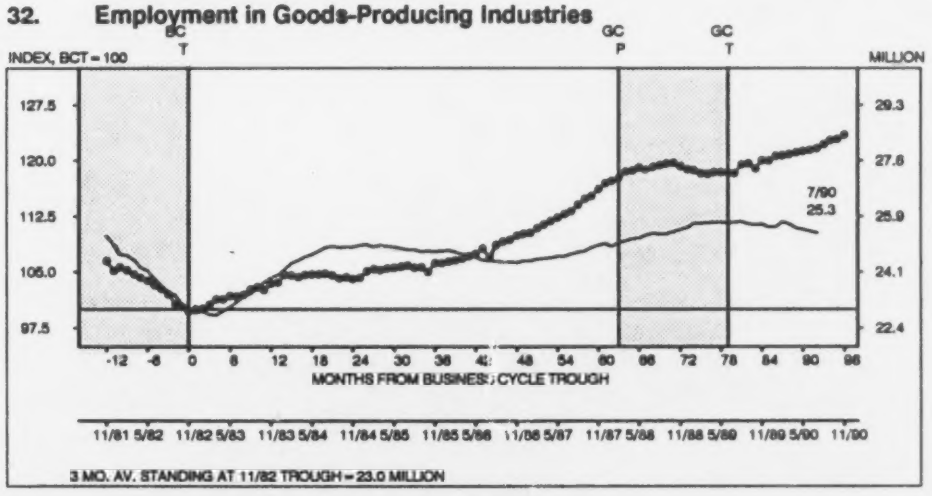
30. Nonfarm Employment



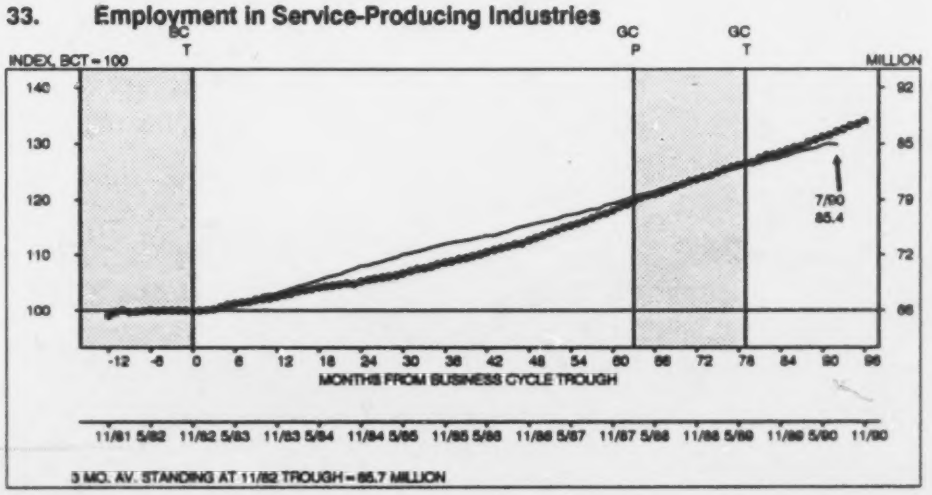
31. Nonfarm Employee-Hours



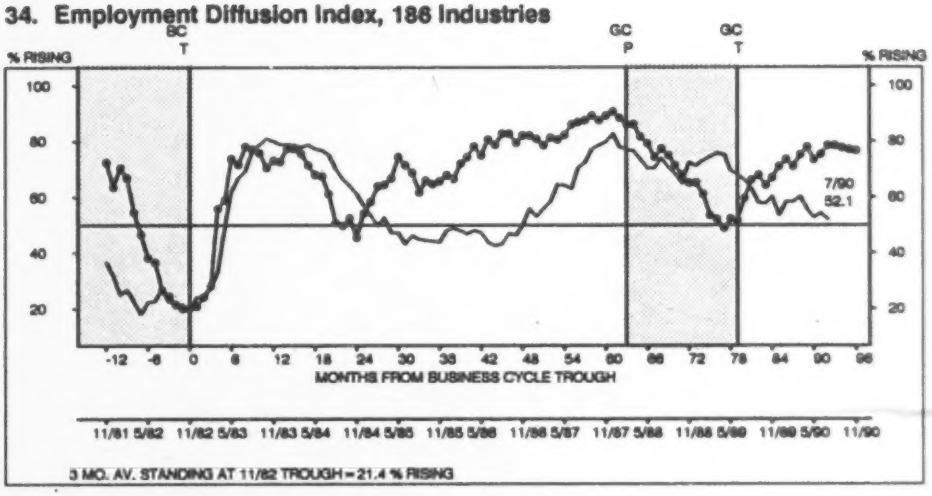
32. Employment in Goods-Producing Industries



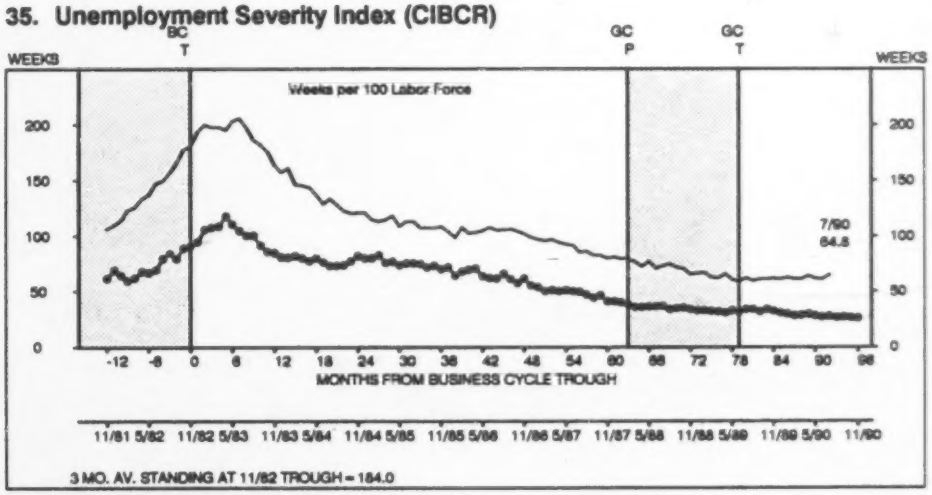
33. Employment in Service-Producing Industries



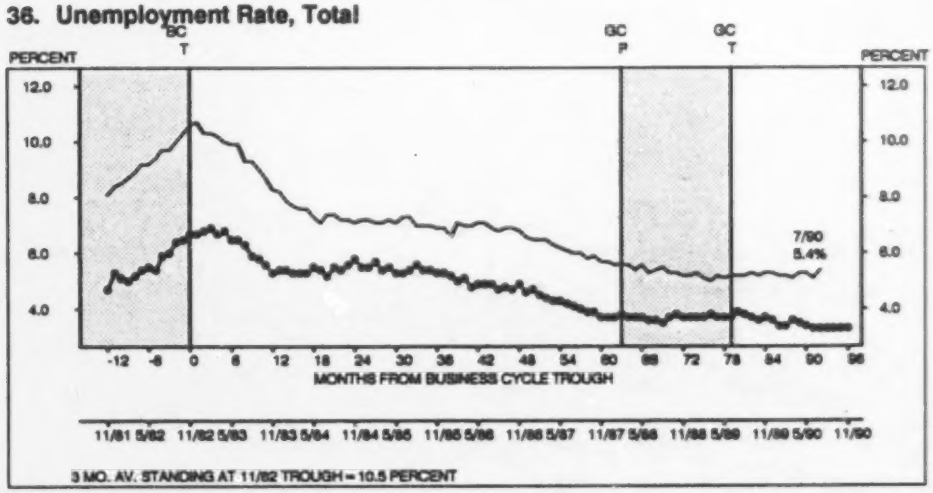
34. Employment Diffusion Index, 186 Industries



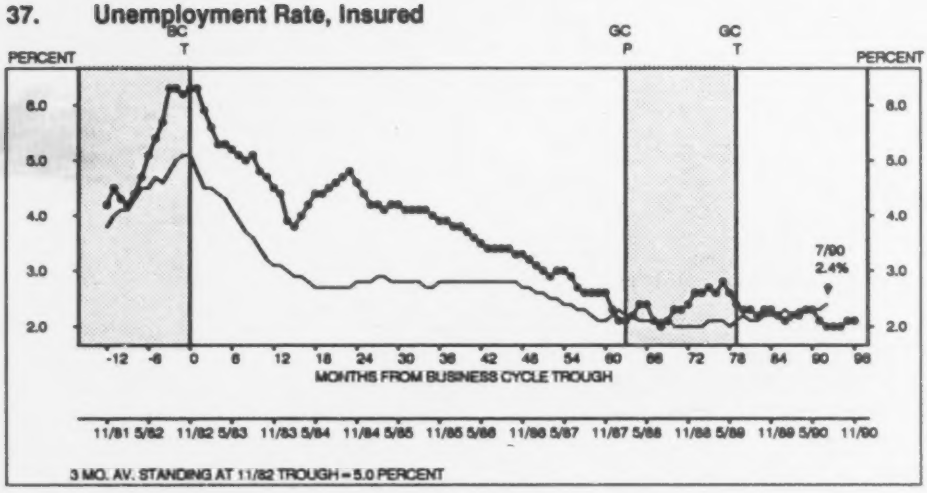
35. Unemployment Severity Index (CIBCR)



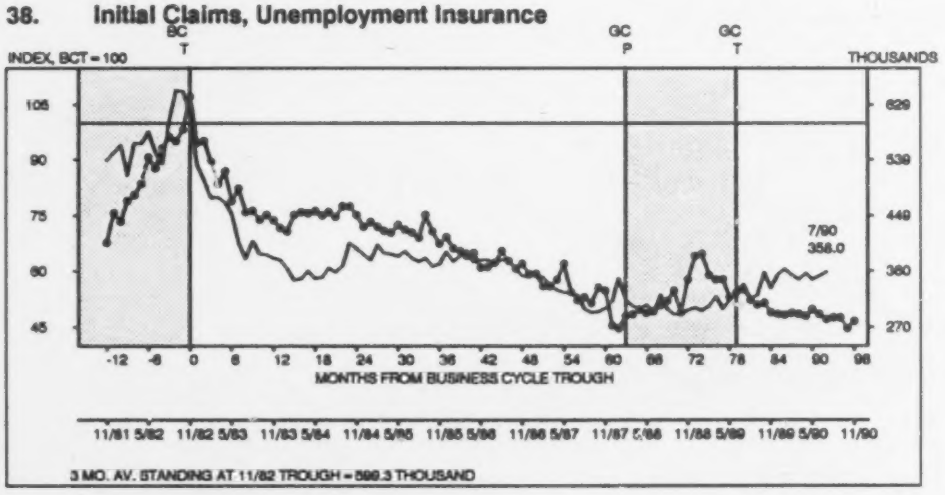
36. Unemployment Rate, Total



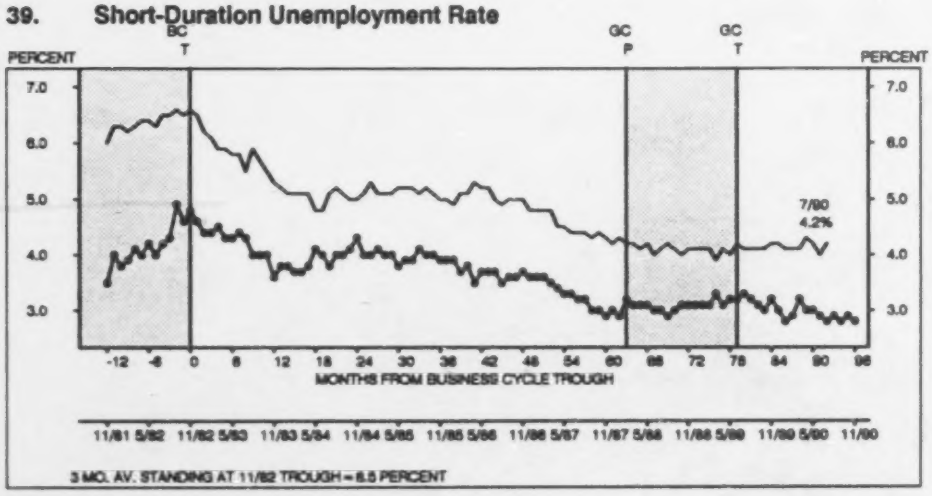
37. Unemployment Rate, Insured



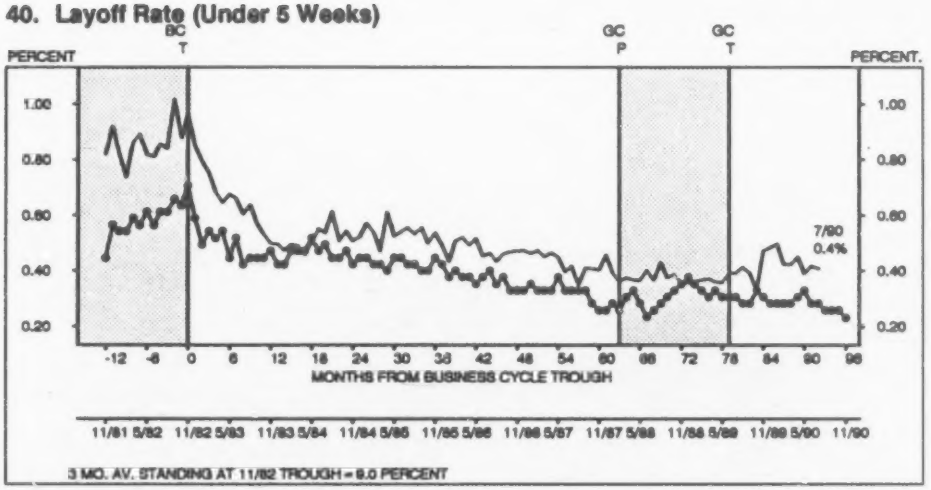
38. Initial Claims, Unemployment Insurance



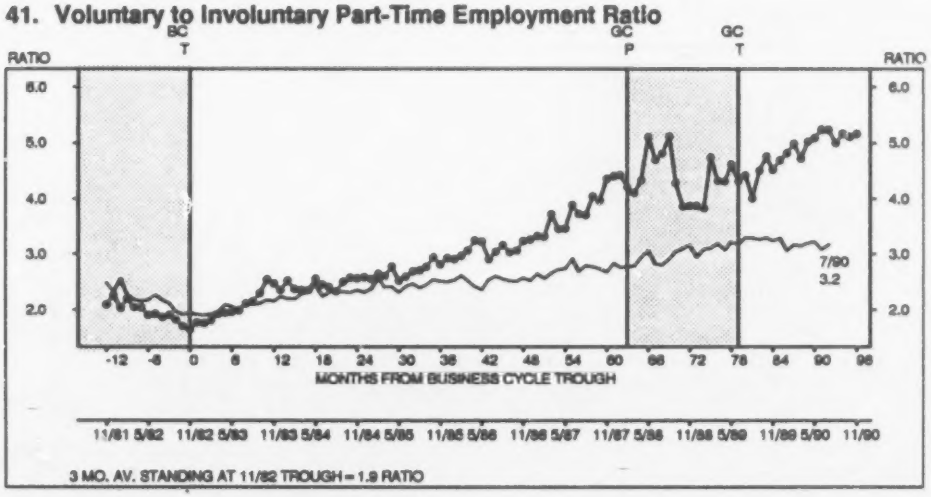
39. Short-Duration Unemployment Rate



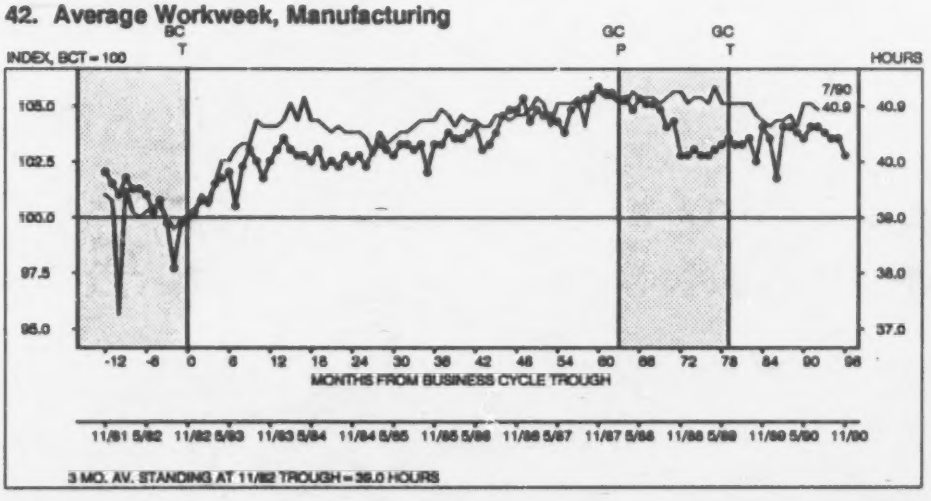
40. Layoff Rate (Under 5 Weeks)



41. Voluntary to Involuntary Part-Time Employment Ratio

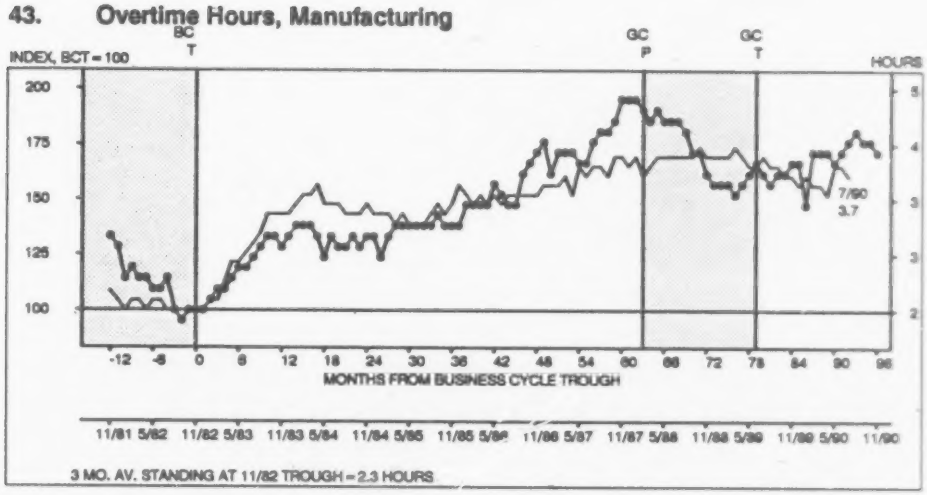


42. Average Workweek, Manufacturing

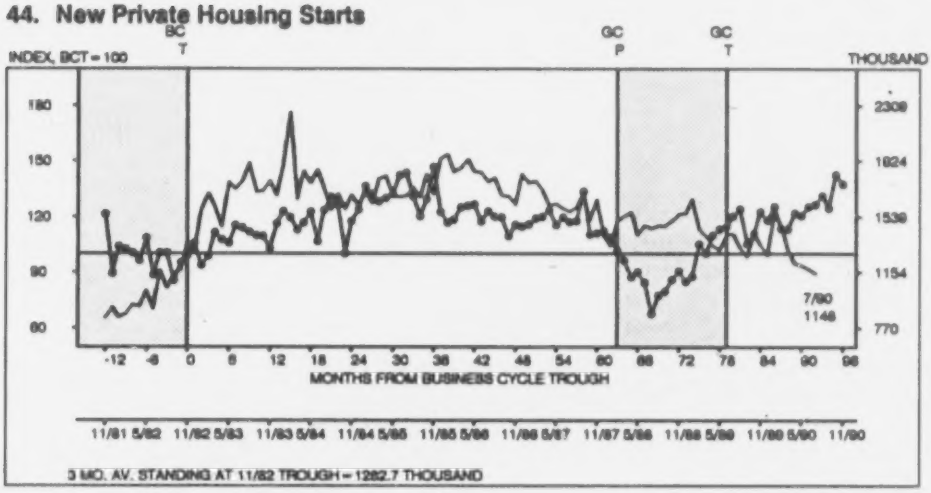


The workweek and overtime hours moved up a bit in August.

43. Overtime Hours, Manufacturing

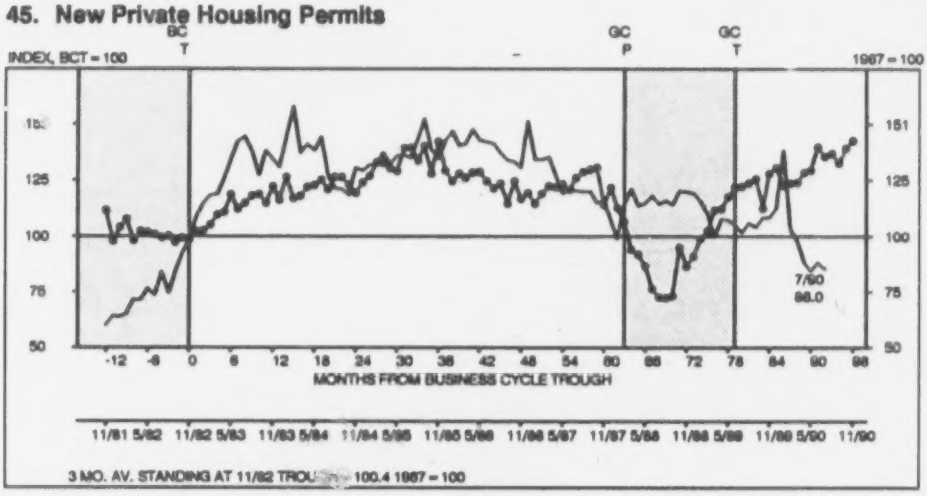


44. New Private Housing Starts



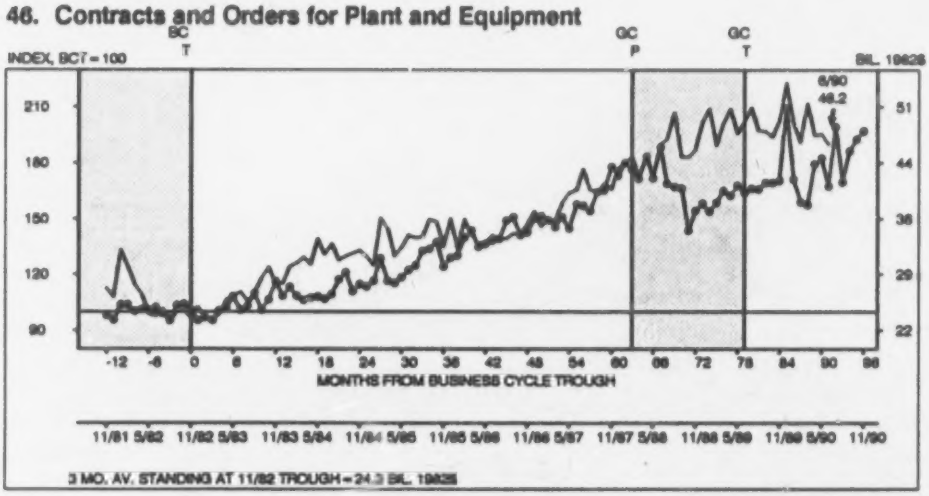
The continued weakness in housing shows up both in starts ...

45. New Private Housing Permits

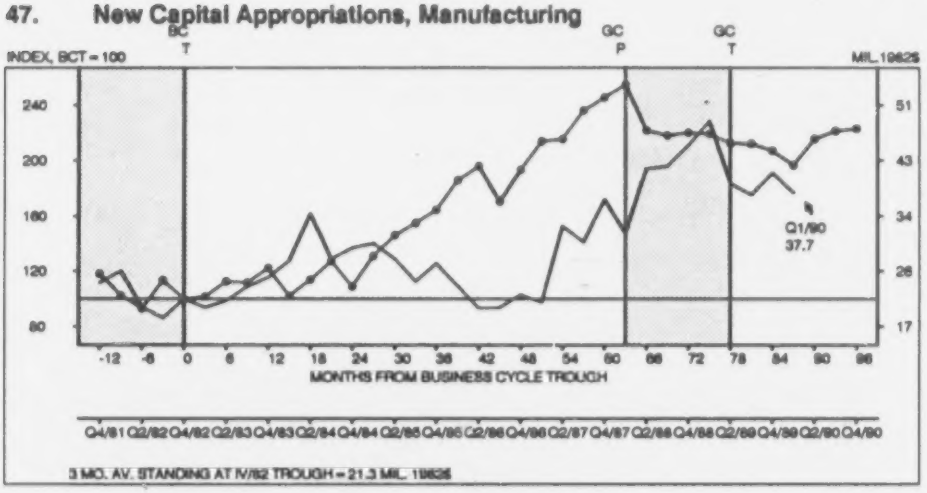


... and in permits issued.

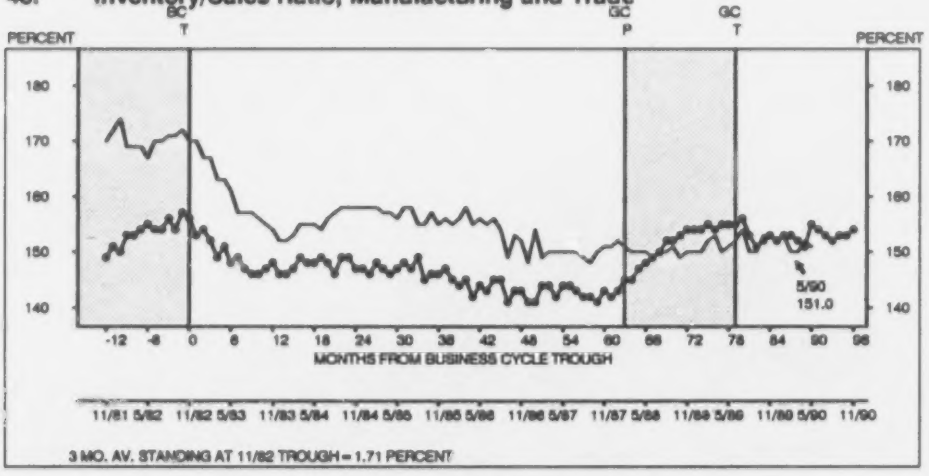
46. Contracts and Orders for Plant and Equipment



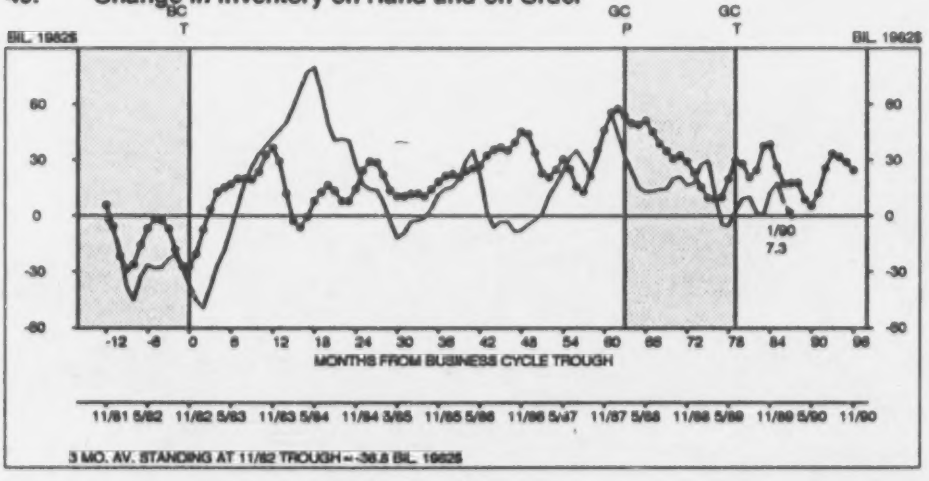
47. New Capital Appropriations, Manufacturing



48. Inventory/Sales Ratio, Manufacturing and Trade

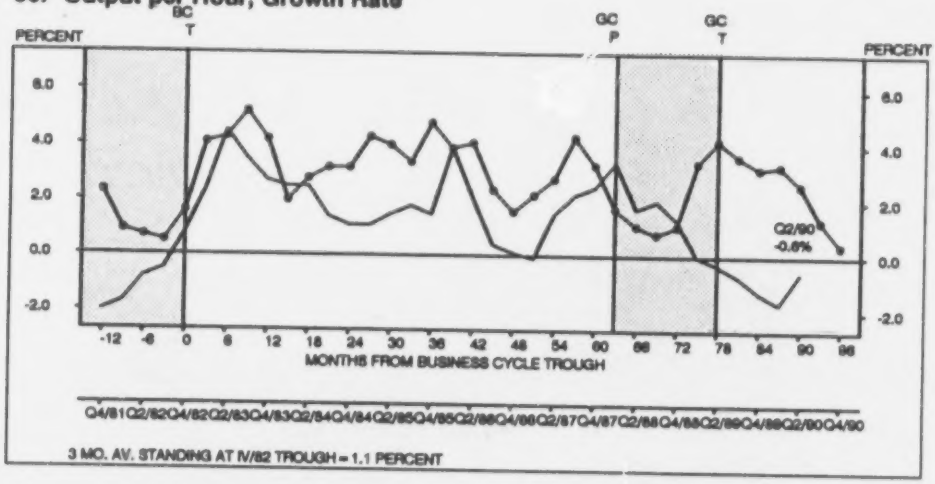


49. Change in Inventory on Hand and on Order

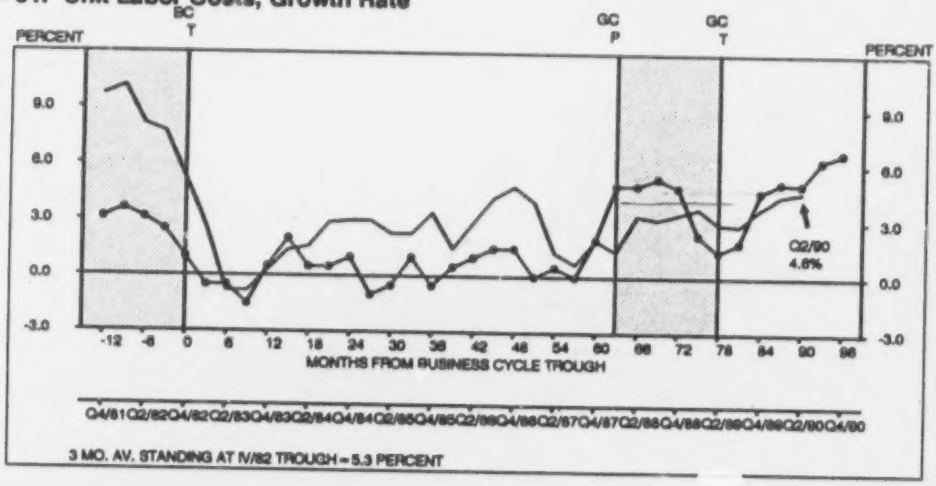


This series is discontinued.

50. Output per Hour, Growth Rate

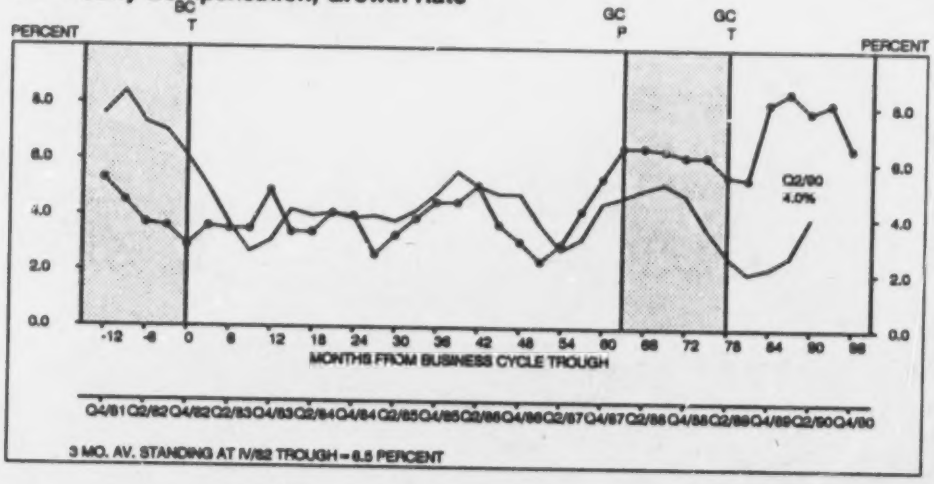


51. Unit Labor Costs, Growth Rate

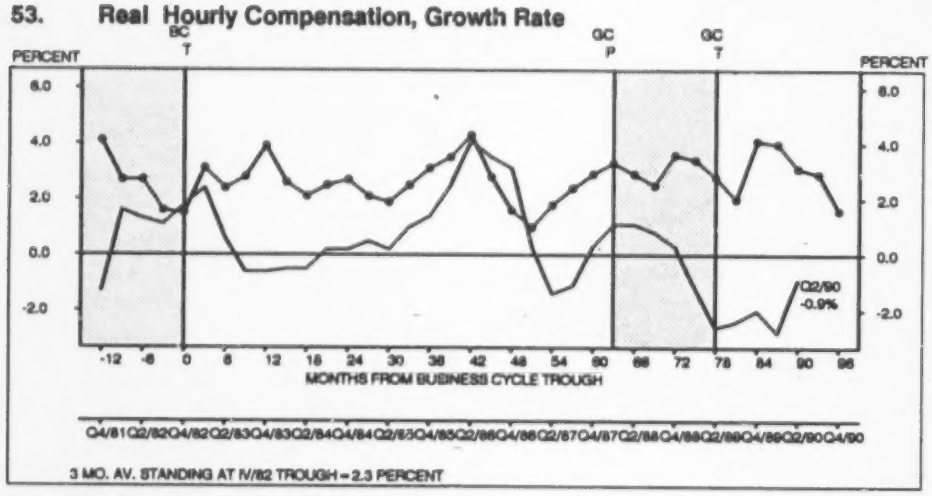


Unit Labor Costs are growing at their fastest pace in four years, squeezing profit margins.

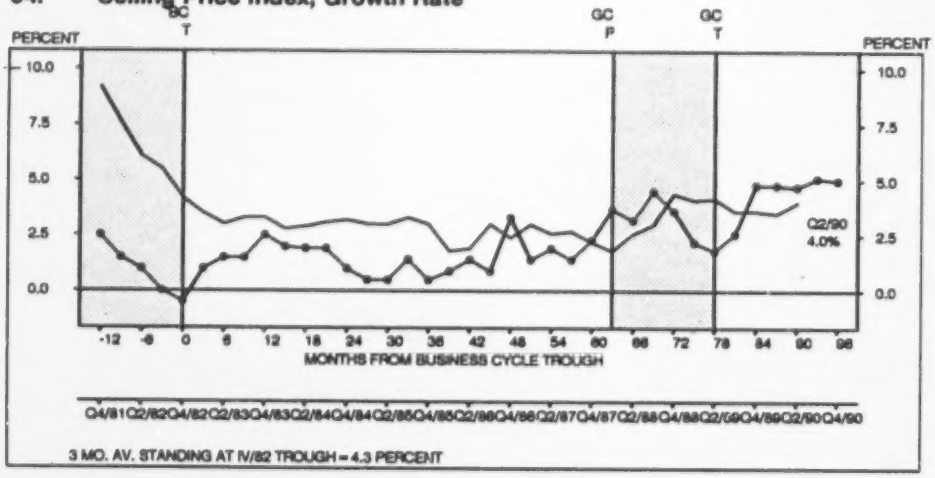
52. Hourly Compensation, Growth Rate



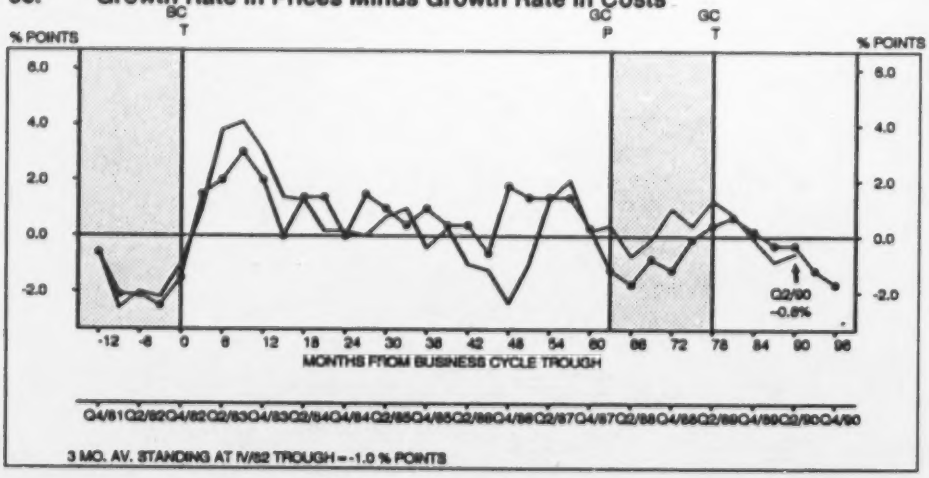
53. Real Hourly Compensation, Growth Rate



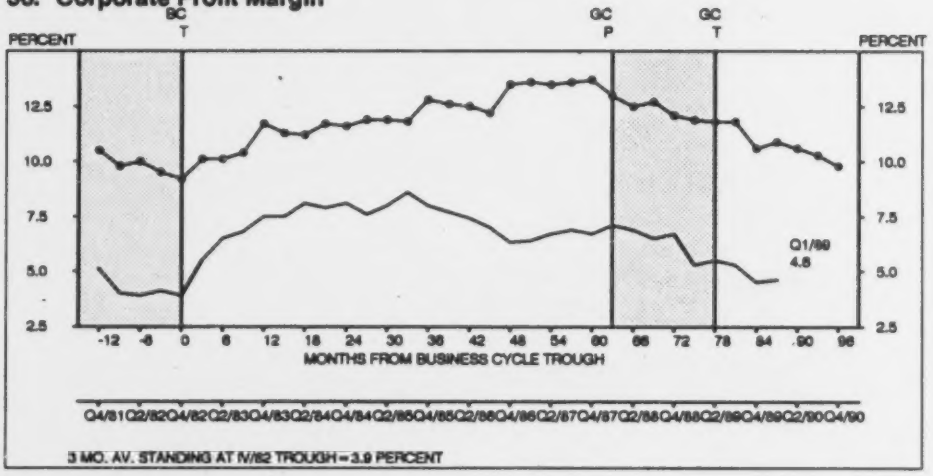
54. Selling Price Index, Growth Rate



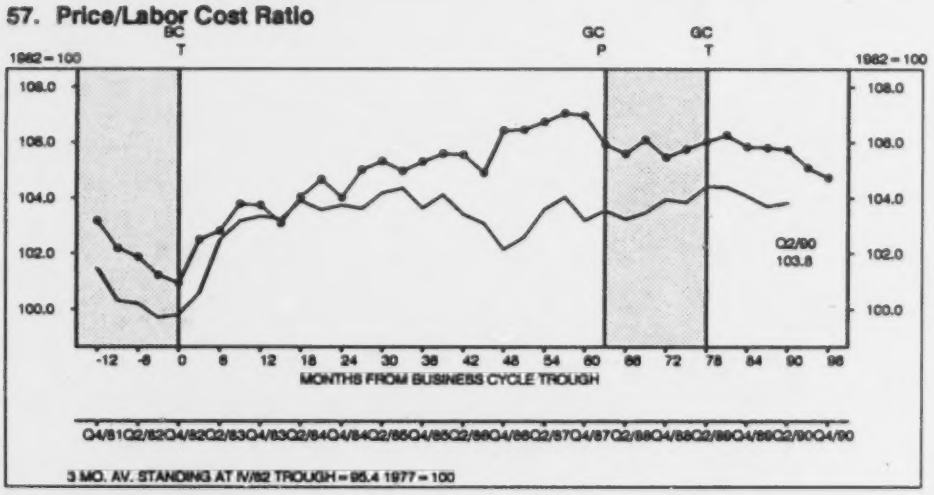
55. Growth Rate in Prices Minus Growth Rate in Costs



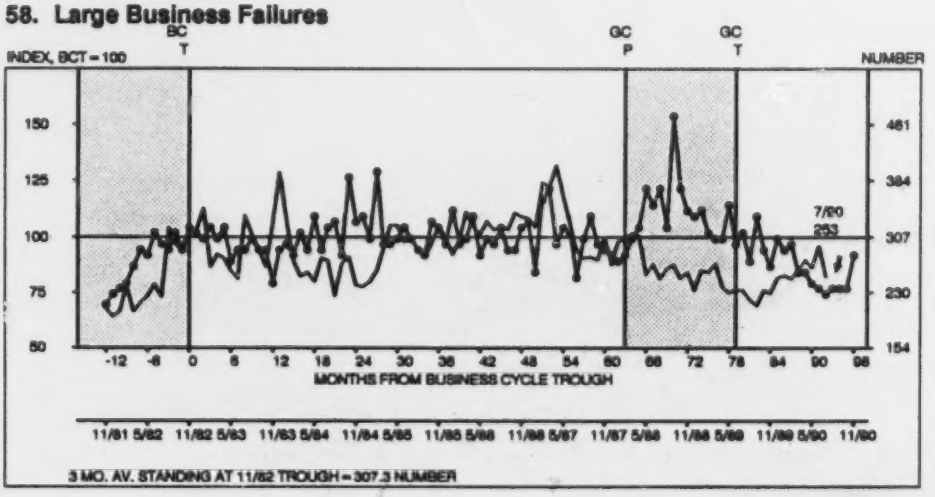
56. Corporate Profit Margin



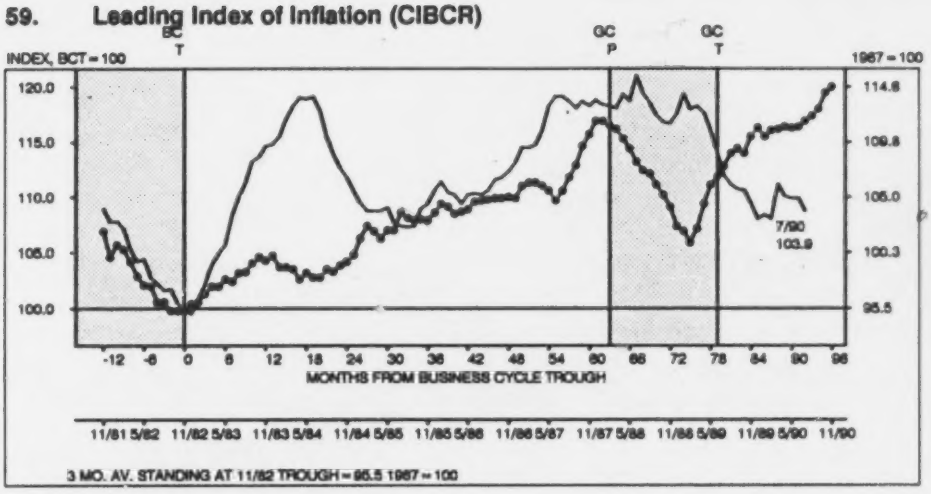
57. Price/Labor Cost Ratio



58. Large Business Failures

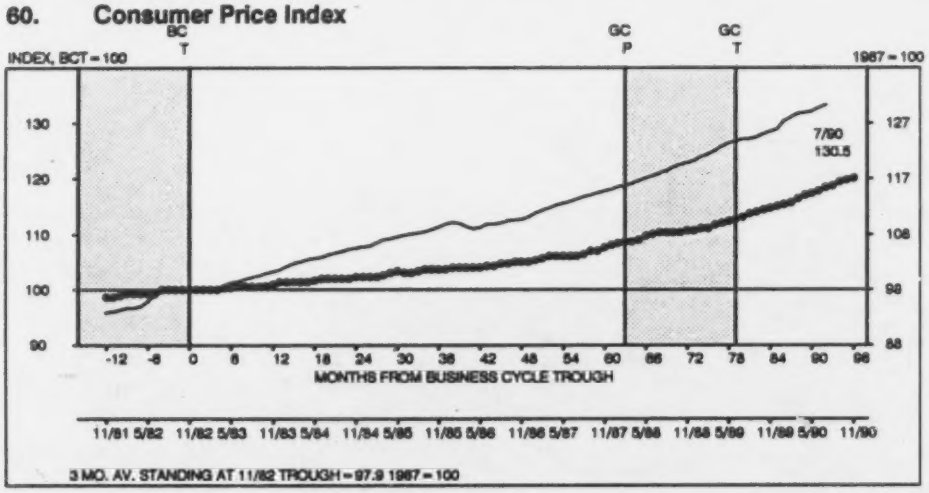


59. Leading Index of Inflation (CIBCR)

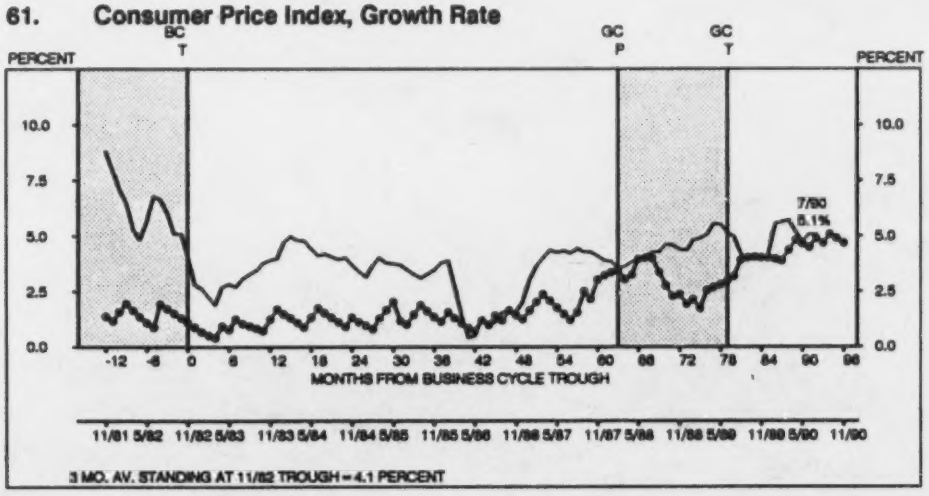


CIBCR's Leading Inflation Index shot up to 106.2 in August, signalling an upturn in inflation.

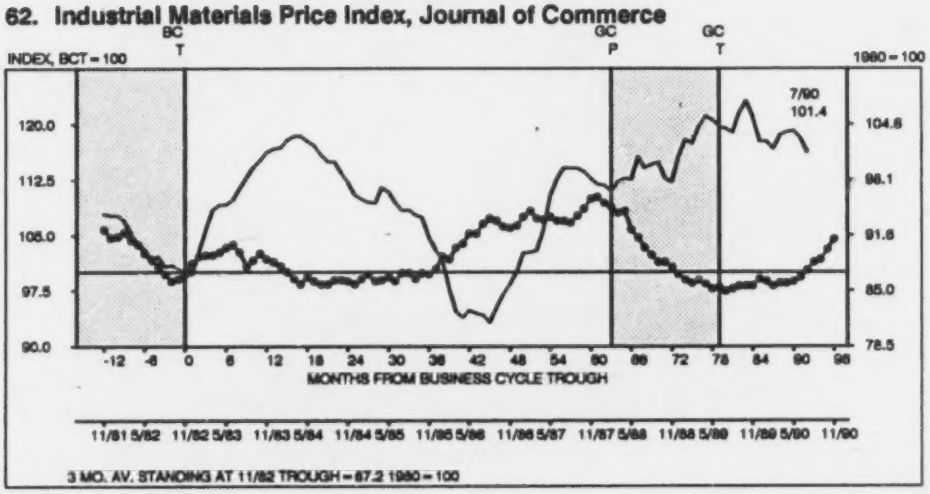
60. Consumer Price Index



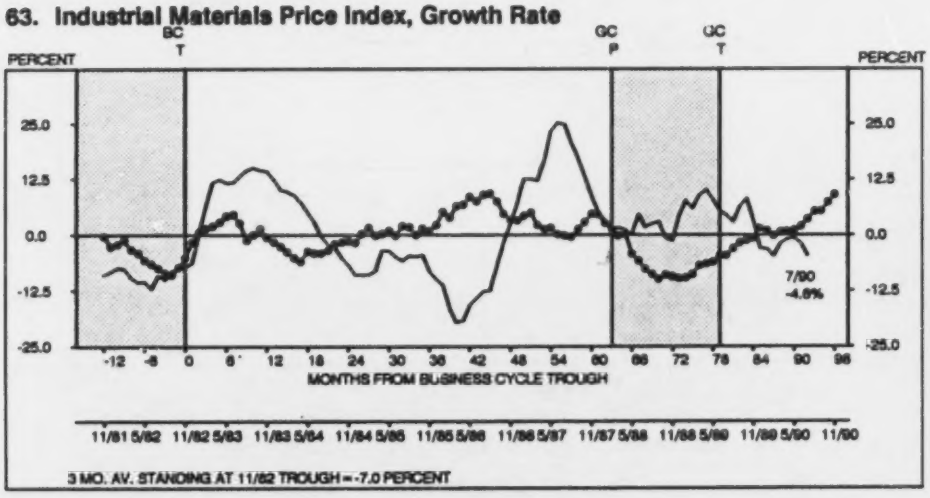
61. Consumer Price Index, Growth Rate



62. Industrial Materials Price Index, Journal of Commerce

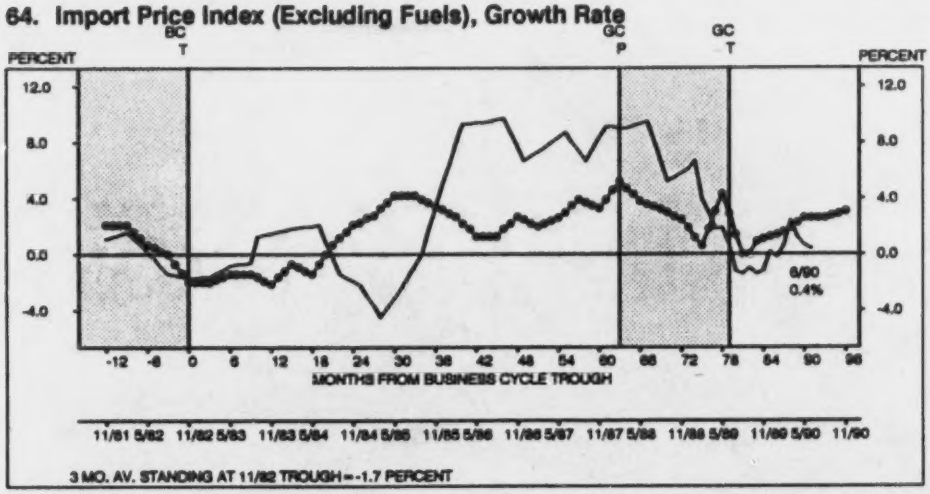


63. Industrial Materials Price Index, Growth Rate

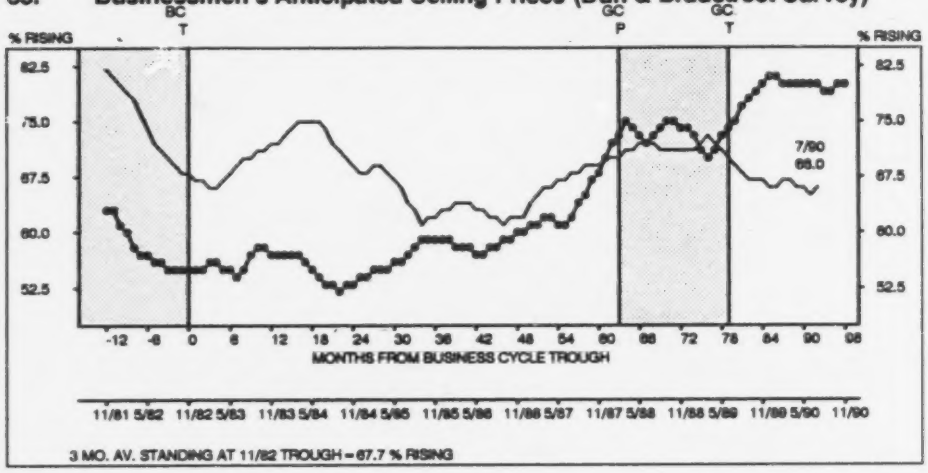


Spurred by higher oil prices, the industrial materials prices growth rate climbed to 2.0% in August and nearly 5% by September 8.

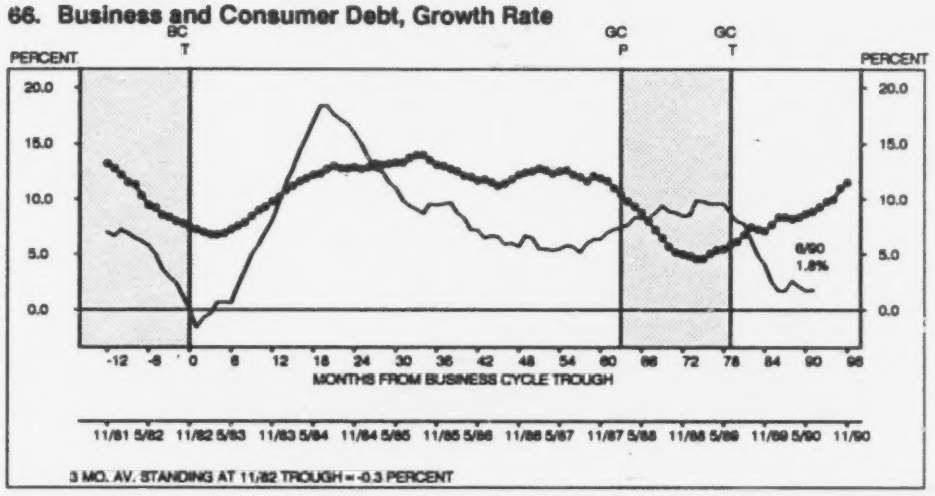
64. Import Price Index (Excluding Fuels), Growth Rate



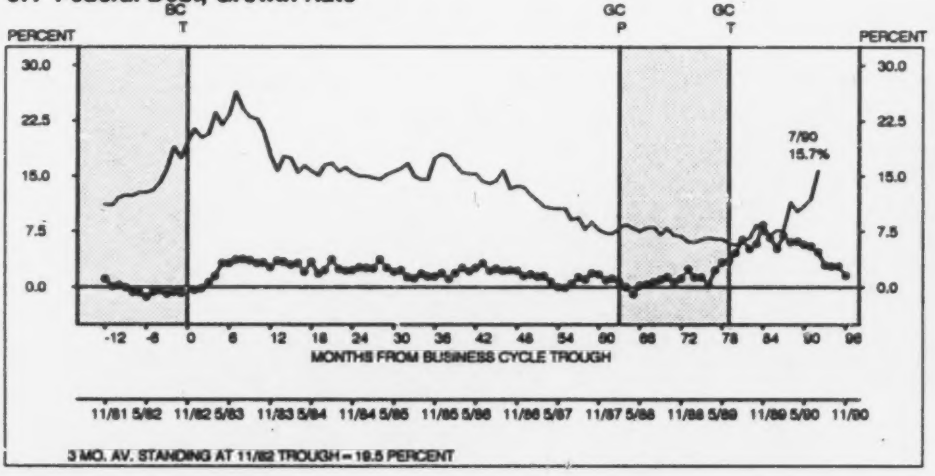
65. Businessmen's Anticipated Selling Prices (Dun & Bradstreet Survey)



66. Business and Consumer Debt, Growth Rate

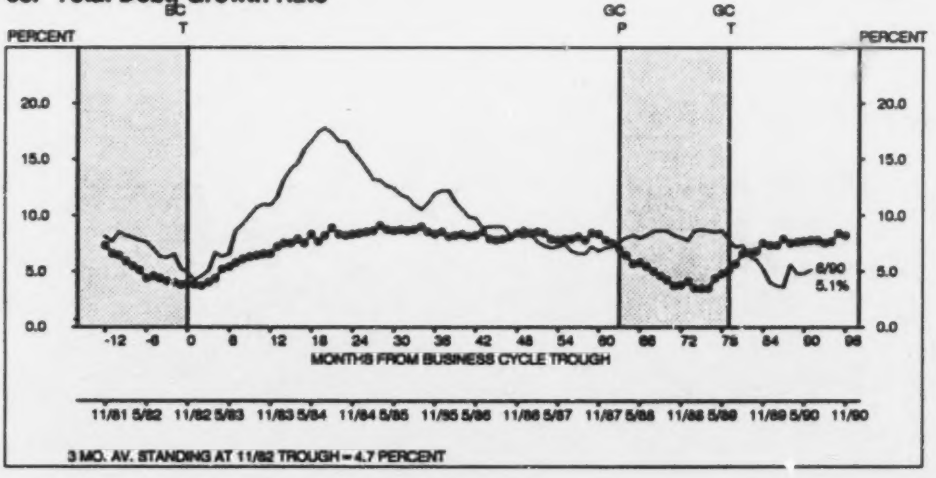


67. Federal Debt, Growth Rate

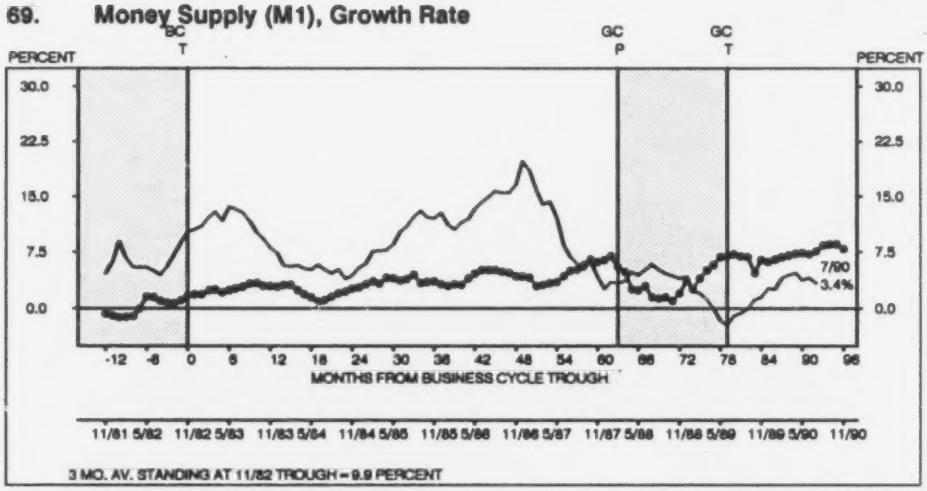


Federal debt was growing at its fastest pace in four years, even before the Persian Gulf crisis.

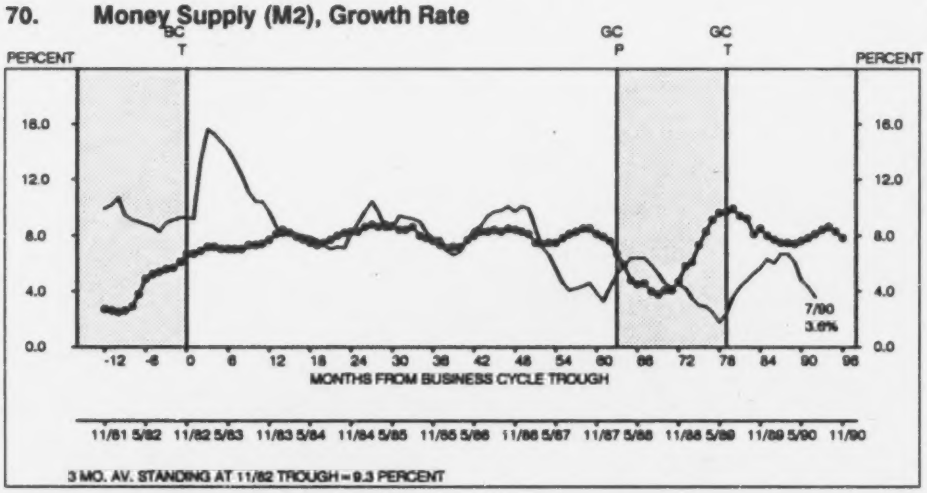
68. Total Debt, Growth Rate



69. Money Supply (M1), Growth Rate

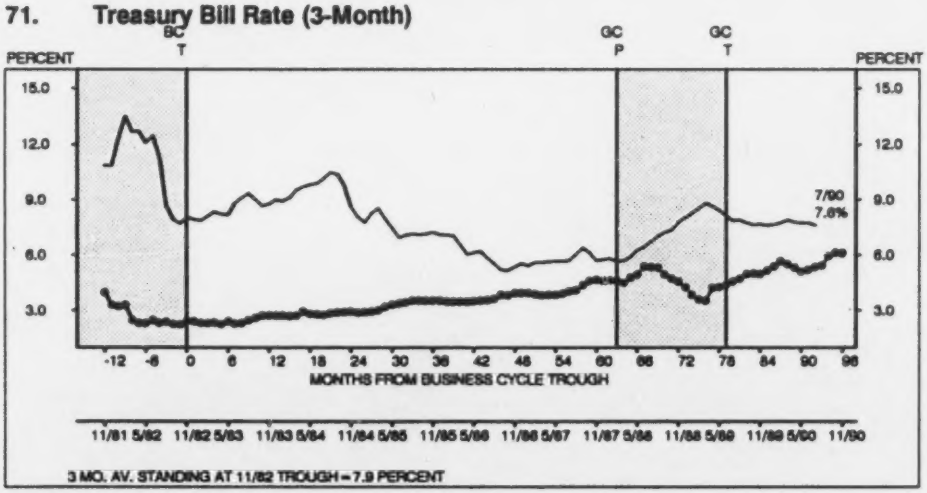


70. Money Supply (M2), Growth Rate

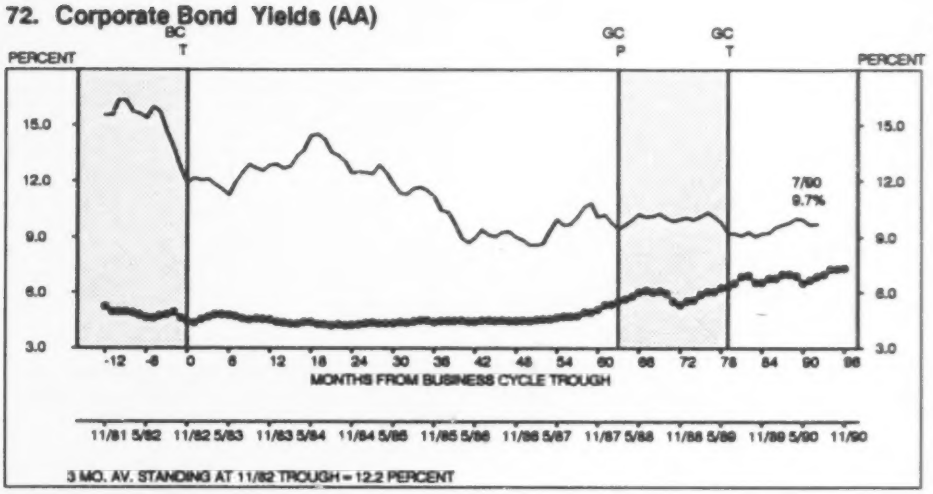


The M2 growth rate reached 4.8% by September 1st.

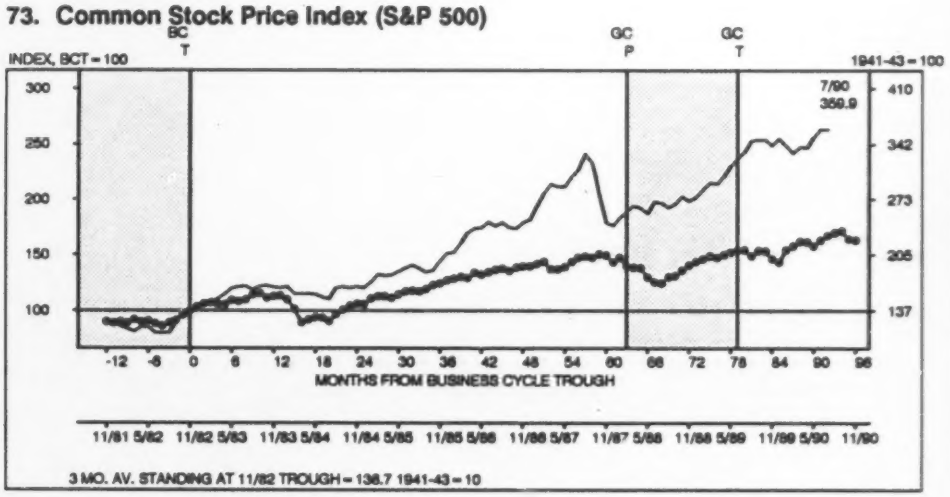
71. Treasury Bill Rate (3-Month)



72. Corporate Bond Yields (AA)



73. Common Stock Price Index (S&P 500)



In August, the stock price index plunged to 330.7.

RECESSION-RECOVERY WATCH SERIES AND CHARTS

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